The Builder.

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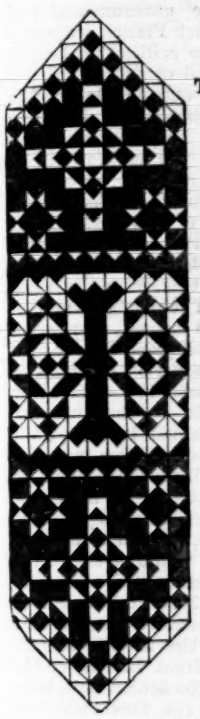

Old Buildings and New Decorations.

IT is an obvious fact that many buildings in occupation must require a renewal of their internal decoration much oftener than the building itself requires renewal. There are cases in which the decorations of a building, the main portions of which were completely finished from the first, have never been completed at all, and have still to be carried out when a new interest is imparted to the building from its passing into the hands of a new proprietor, or from any other reason. In such cases is it *de rigueur* to comply with the style of the building itself, whether we admire it or not? Or may we not decorate from our own point of view, and in accordance with our own taste?

The question is sometimes suggested by the sight of a proposed scheme for decorating a building under such circumstances. We have, perhaps, a church which belongs to what we will call the Late Classic period of English architecture, which has been left, as so much of the said Late Classic architecture actually was left, in a very bald and prim state of unadornment. A new incumbent or a new churchwarden desires to raise the building from this pristine state into one of comparative beauty and magnificence, and asks for a scheme of decoration. The purist system is to decorate the building as those who built it would have decorated it. The intending reviver of the glory of the structure will, in that case (supposing still that it is Late Classic), receive a scheme for his consideration embodying among its details many wreaths and festoons, some hanging vertically, some horizontally; ribbons will appear here and there tied in knots and with the ends fluttering away in plaster; puffy little cherubs (so called, of course, because they are in a church, but looking much more like Cupids) will sprawl on various surfaces that may appear open to receive them. If colour is introduced, it will not be such as we, since our partial enlightenment in regard to colour, could approve of; it will be such as is found in decorators' sketch-books of the supposed period, showing strange and awful combinations of pink and green, such as we know to be contrary to all the law and the prophets. Yet these sins will be proposed, because it is known, and we cannot deny it, that the original architects of the building would have done thus if they had done anything.

The case was, occasionally still is, the same when the question is of a Mediæval building, supposed perhaps to have been once coloured, or once meant to be coloured. The unfortunate example of a certain ancient church near Winchester is a conspicuous one, known to most people who have interest in such matters. There are other examples from our cathedrals that might be quoted, in which decoration of a very violent and glaring kind has been introduced, with much raw primary colour, offensive to the delicately-trained eye, but introduced, because certainly the Mediæval decorators would have worked in these strong colours, and perhaps have left faint but readily comprehensible traces of the fact that they did so. Our taste of late years has been trained to dislike masses of primary colour, and at present the prevalent taste is, in fact, towards an over-fondness for weak and often nearly colourless tones; yet if we decorate a Gothic church we are ready, or some of us are, to throw overboard all this certainly more refined (no doubt sometimes over-refined) taste for pale tones, and adopt the taste of the Mediævalists for strong colours.

Now we wish to suggest that when an architect or decorator is called in to design or advise upon the new decoration of an old building, it is not necessarily his part to reproduce something like what the original architects would have done, unless this happen to be in accordance with the best taste in decoration as understood and believed in his own innermost artistic conscience. If the building had altogether decayed, and had to be removed and a new one built, no one would say that it was the architect's duty to build a new one exactly like the old one. On the whole, he would rather be blamed for doing this, as producing a sham. Nor is it any more his duty, if the decoration of the building be decayed, whitewashed over, or non-existent from the first, to produce new decoration which shall be an imitation of the old, or of what it is presumed the old would have been if it had ever been executed. This is as much a sham as the new building.

But is he not bound, it may be replied, to consider the style of the building, and harmonise his decoration with it? Yes, in a sense, undoubtedly; but not necessarily in the precise manner in which the original artists would have done it. That is not harmonising; that is merely mimicry, and may often involve the throwing away of an excellent opportunity to improve an old building and to set up a new standard of taste, or the commencement of one. It is surely a very poor course for a modern designer to take, to say practically, "The people who erected this building knew nothing of colour, and had very vulgar ideas about the *motifs* and the execution of decoration, and therefore in decorating their building I will reproduce all their deficiencies and vulgarities faithfully." What we should rather endeavour to do should be to devise a scheme of decoration which, while avoiding the errors and shortcomings of the style of the original building, should yet harmonise with its general lines and with the general purport and feeling of its architecture. To attempt to decorate in that spirit would render the task worthy of being called an intellectual one, which the mere correct reproduction of a bad or vulgar style certainly is not. It would be a matter of serious interest to devise a style which should retain sufficient suggestions and reminiscences of the kind of decoration originally belonging to the architectural date of the building, and which at the same time should show that the modern decorator is not in the trammels of his perhaps less cultivated predecessors. His decorative scheme should seem in itself to say to the spectator, "We know how the original architects would have done this, but we also know better than to fall into all their weaknesses and vulgarities of style."

These few remarks, partly suggested by a certain design, never mind where, in which all the weaknesses and tawdrinesses of the Wren school of ornament, with Cupids, ribbons, and what not, have been deliberately reproduced for the edification of the present generation, out of an over-acted desire for "harmony," fortunately seem about to receive illustration in the opposite direction by what is being designed for the decoration of St. Paul's Cathedral. In that scheme there certainly seems to be the attempt to produce something which shall be sufficiently in relation to the architectural style of the building, and sufficiently suggestive of what would have been Wren's decorative idea if he had ever had it carried out, while avoiding any of the more prominent faults of the Wren school of detail and of ornament, and suggesting something much superior, in fact, to what would have occurred to him or his contemporary artists. And fortunate indeed it is that this is so, and that no misguided attempt has been made to produce exactly what would have been done in Wren's day had the funds for decoration on a large scale been forthcoming at that time. The mere idea of St. Paul's Cathedral so bedizened as it would have been with Cupids and clouds and ribbon-knots, ought to be sufficient to convert even the most ardent adherents of "truthfulness" in such matters, and certainly suggests a powerful, even a formidable, illustration of our present observations.

Public Works in India.—Strong statements as regards the evil of the system under which public buildings are erected in India are being published. We have before now pointed this out at some length.

The Pollution of the Thames.—At the meeting of the Court of Common Council on the 5th inst., Mr. Stoneham asked whether the chairman of the Port Sanitary Committee could give the Court any information as to the progress made by his committee in the matter of the prevention of the pollution of the river Thames. Also whether the chairman could tell the Court what progress had been made by the floats placed in the river at Crossness and Barking, nearly three weeks ago, and how long, judging by the test, it takes for the sewage to reach the sea. Mr. Davis (chairman of the Port of London Sanitary Committee) replied, that they were taking very active steps in this inquiry, but it was impossible at the present moment to give any decided answer to the first question. As to the second question, regarding the floats, there was, unfortunately, some little delay. The floats were not quite suitably constructed, and they were replaced in his presence on Sunday. This was a continuous work, and if they lost one tide the experiment would be worth nothing. The float that had reached the furthest point towards the sea was at Shorley battery, about two miles below Gravesend. Only three floats reached there within from seventeen to nineteen days. There was only one float up the river towards Richmond, which had got as far as Chelsea. One float, by some extraordinary circumstance which had not yet been explained, had never left Barking, but was still in the neighbourhood of the sewage.

Notes from Rome.—A new quarter of handsome villas is being built in that portion of the gardens of Sallust which formerly belonged to the Barberinis and now belongs to Spithöver, the librarian. A correspondent of the *Athenæum* says,—Many works of art and remains of buildings have been found in cutting and levelling the new streets. Near the junction of the Via Venti Settembre and the Via Salaria the temple of Venus Erycina, otherwise called "Venus hortorum Sallustianorum," has been found, an imposing structure, some 100 ft. long and 50 ft. wide. Only the foundations remain, made of rubble work, so hard and strong that dynamite has been used to blow them up. The walls are 8 ft. thick, and are sunk to a depth of 45 ft. Such an excess of solidity is not out of place, as the temple stood on the embankment or agger of Servius, made of loose earth. Of the thirty-two columns of the peristyle, and of the marble cella, steps, and entablature, not a trace, not an atom, has been discovered, an example almost unique of wholesale destruction. Sixty-four feet below the platform of the temple, at the bottom of the fosse or moat which protected the agger from the outside, a statue was found, representing Endymion dozing on the Rocks of Mount Latmos. It is of natural size, of good if not perfect workmanship, and in a wonderful state of preservation. The attitude of the wearied huntsman is graceful, and must have pleased Diana, whose figure, however, is still missing.

York.—The memorial and monumental cross to the late Provost Render has been fixed in its position at the Cemetery, York. The height is 13 ft., the tomb is 7 ft. 6 in. long, 3 ft. wide, and 2 ft. 6 in. high. The cross is richly foliated, and springs from a moulded and carved capital. The style of the design is simple and broad. The design was furnished by Mr. G. Goldie, of London, the architect of St. Wilfred's (R.C.) Church, York, the erection of which was mainly due to the exertions of Provost Render. At the foot of this monument is a tomb (also designed by Mr. Goldie, more than thirty years ago) under which repose the remains of Dr. Render's immediate predecessor, the Rev. Thomas Billington, who died a martyr to charity in the year of pestilence, October 1st, 1847, aged 53. This tomb, which had suffered considerably from the weather, has been taken down and refixed during the past week by Mr. G. W. Milburn, by whom the design for the memorial cross for Dr. Render was carried out.

Typhoid in a New Building. — Typhoid fever has broken out among the men of the Metropolitan Police located in Portsmouth Dockyard. Two fatal cases have occurred; a third serious case has been taken to Haslar Hospital, and several milder cases are reported. The police are quartered in a new pile of buildings, which has been erected in the Extension Works, and the outbreak is attributed to defective drainage.

Lace and Fan Exhibition at Brighton.—On Saturday last a loan-exhibition of laces and fans was opened at the Brighton Aquarium. Lady Brassey is an abundant contributor, and to her kindly aid the success of the exhibition is largely due. The articles her ladyship has sent occupy a prominent place in the centre of the entrance-hall, having a whole case devoted to it. The most curious specimen Lady Brassey has sent is an antique piece of old Flemish lace, representing in crude eccentric figures what the work tells us is the "Nativite dus enfant Iesus." There is a good display of fans, for which there are three divisions, for which the directors offered a series of prizes. In the first, for modern hand-painted fans, the first prize (five guineas) was awarded to Mons. M. Mace; the second (three guineas), to Miss Dawes; the third (two guineas), to Miss Edelston. Miss Alice Grant, Miss Ada Moore, and Miss M. Jones were commended in this class. For hand-painted designs or mounts, Miss A. J. Edelston takes the first prize (3*l.*); Mrs. L. C. Arthur, the second (2*l.*); and Mrs. Freeman Gell, the third (1*l.*). Miss Mina Parks-Smith was highly commended. For collections of antique fans, the first prize, the company's gold medal, was awarded to Mr. Edward Joseph, for a set of ten fans, illuminated with historical subjects. Lady Brassey was awarded the second prize, the company's silver medal, for a collection of seven antique fans,—French, Maltese, and Chinese,—most elegantly fitted. Mrs. Cooper was commended for her collection of five antique fans, including Italian and Chinese specimens. The work of judging was entrusted to Mr. John C. Jackson, M.A., F.R.A.S., and Mr. Clem. Lambert. The exhibition will continue open until Saturday, October 28th.

Railway Servants' Congress and Exhibition at Darlington.—On Tuesday in last week an exhibition of models of improved railway wagon couplings and other railway apparatus was opened in the Volunteer Drill Hall, Darlington, and almost immediately afterwards the annual sittings of the representatives of the Amalgamated Society of Railway Servants, over whom Mr. Macliver, M.P., presided, commenced in the Mechanics' Institute, in the same town. The object of the exhibition was not pecuniary gain. All that the committee desired in this respect was to realise a sufficient sum to meet the expenses incurred in carrying out their work. The primary object the promoters had in view was to assist in insuring a greater degree of personal safety for workmen engaged in the dangerous vocation of manipulating railway traffic. The special feature of the exhibition was the large display of models of couplings used for connecting vehicles. The reason given by the committee for making couplings of new and improved design their speciality, is that those now in use entail serious risk to the men who manipulate them, and it is stated that "they are of primitive design, and almost the only appliances connected with active railway work which have escaped improvement tending to facilitate work and at the same time to promote safety." Comparatively few railway men are regularly engaged in the operation of coupling and uncoupling railway vehicles, but, notwithstanding this fact, during the five years ending with 1880 no fewer than 206 men were reported to the Board of Trade to have been killed, and 1,614 more or less seriously injured while engaged in these operations. To accomplish their work the men thus employed have to get in between the vehicles, and the society, in seeking to do away with this risk, needs no justification.

Brownhills Water Supply.—At the meeting of the Brownhills Local Board on the 4th inst., a letter was received from the Local Government Board with regard to the water-supply, stating that a very great many of the wells in the district are contaminated with sewage matter, and that a pressing necessity exists for a pure and abundant supply of water. The letter pointed out that it is clearly the duty of the Urban Sanitary Authority to take immediate steps for providing the district with a sufficient and wholesome water supply. A discussion ensued, and eventually the Clerk was instructed to write to the Local Government Board stating that the Local Board were having the waters from the wells analysed, and were calling upon the property-owners to have their properties adequately supplied, being resolved, in default, to take proceedings to have the premises closed.

Profits of Parochial "Dusting."—At the meeting of the Mile End Old Town Vestry on the 4th inst., the Dusting and Cleansing Committee reported that they had for some time past been considering whether, if an eligible site could be obtained, it would be advantageous to the ratepayers for the Vestry, by their own workpeople, to sort the dust and rubbish collected by the Vestry's carts, and to make it into a merchantable commodity. Mr. Cushen, as chairman of the Committee, negotiated with the Great Eastern Railway authorities, and obtained a site at the Devonshire-street Depôt. He said the Vestry were recommended to adopt the proposed plan, and to authorise all the necessary steps to carry out the scheme. What the committee designed now was to undertake the sorting and sale of the refuse for the ratepayers' profit. Estimating,—as there was good reason to do,—the profit at 1*s.* a load, the amount obtained for the 16,000 loads removed from the parish per annum would be something like 800*l.*, and other sources of revenue which would follow would, it was hoped, bring them in as much as 1,000*l.* a year, instead of letting it go to a middleman. The recommendations were unanimously adopted.

A City Tavern.—The great fire which more than a year ago consumed Messrs. Foster & Co.'s and other neighbouring premises in Cheapside did considerable damage to the Bull's Head Tavern, Bread-street. It was deemed advisable, instead of merely restoring the building to its former condition, to rebuild entirely, and plans for the new building were prepared by Mr. B. Tabberer, architect, Coleman-street, and tenders invited. Mr. R. Conder proved the successful competitor, and at once proceeded with the work. The premises have been re-opened for business. They are four stories in height above the street, and have a basement and sub-basement. The front elevation, which is of Corsehill and sandstone, on the ground-floor, and Chilmark stone above, is of Italian character, with large window-openings. Mr. Porter of Cullum-street, and Mr. Cohen, of Chiswell-street, have supplied the gas-fittings; and the pewterer's work has been done by Mr. South, of George-street, Blackfriars-road.

A Brighton Concert Hall Burned Down.—Late on Saturday night last the West-street Concert Hall, Brighton, was discovered to be on fire. Despite the efforts of the firemen, the flames spread to an adjoining hotel, five stories in height, which, together with the concert-hall, was gutted. Another hotel on the other side of the hall escaped, but it was not until four o'clock on Sunday morning that the fire was got under. Hamilton's panorama had been shown in the building on Saturday night. The fire broke out some time after the audience had left. The damage is estimated at about 50,000*l.* The hall was built some fifteen years ago. The entertainment on the night of the disaster concluded with a mimic representation of the bombardment of Alexandria, and it is conjectured that a spark from the fireworks must have lodged on some of the canvas and smouldered unobserved.

Fall of an Iron Curtain in a Berlin Theatre.—A few minutes after the doors of the Royal Opera House, Berlin, were opened on the evening of the 4th inst., an accident occurred which produced an intense panic, the house being already crowded. Since the catastrophe at the Ring Theatre, Vienna, the stage of the Opera House has been divided from the auditorium by a new iron curtain. Suddenly the whole of this arrangement fell with a fearful crash amongst the footlights. The audience at once rushed to the doors, panic-stricken, and in a few minutes the house was cleared. Although a good many people were severely crushed there was fortunately no life lost. The cause of the accident, it was afterwards ascertained, was the snapping of the chain by which the iron curtain was elevated and suspended.

Provincial Theatres.—Mr. Edward Francis has written an alarming letter to a theatrical contemporary. He speaks of provincial theatres as eminently unsafe, and says that not until a great fire has occurred, "as one soon will," and many lives have been lost, will the authorities awake to a sense of duty. One of the leading provincial journals contends that this sweeping condemnation of provincial theatres is undeserved, and that in Manchester, Liverpool, Leeds, and other large centres of population, the theatres will compare favourably with the best of such structures in London.

The Sanitary Exhibition at Newcastle-on-Tyne.—This exhibition, of which we have already given some particulars, remains open until the 21st inst. The judges (Professor Corfield, Mr. W. Eassie, C.E., F.L.S., F.G.S., Mr. Rogers Field, B.A., C.E., and Mr. Wallace Peggs) have issued their report, in which they award prizes and certificates. For the first time for four years, the Richardson gold medal, for "an exhibit of pre-eminent merit," is awarded, the exhibitors who receive it being Messrs. Mather & Armstrong, of Newcastle-on-Tyne, for their exhibit of a Siemens regenerative gas-burner, which is stated to save 50 per cent. of gas. Medals were also awarded to Messrs. Hayward Tyler & Co., of London, for "full-flush" valveless closet; to Mr. C. D. Ward, of London, for a household closet; to the British Sanitary Company, Glasgow, for a dry earth closet; to Messrs. Wilkinson & Co., Newcastle-on-Tyne, for damp-proof concrete pavement; the French Health Society, for an exhibit of books on hygiene; Messrs. Manlove, Alliott, Fryer, & Co., Nottingham, for appliances which destroy or convert garbage, house refuse, and contents of ash-pits into charcoal; Messrs. T. Bradford & Co., for washing machines; Mr. J. Scott, of Oldham, for mercury gas governor; the Wilson Engineering Company, for improved Wilson range; and Mr. A. J. A. G. Ross, Newcastle-on-Tyne, for patent silicate cotton wool. There were also many articles certificated.

The New Central Fish Market, Farringdon-road.—This building (recently erected as a fruit and flower market in *lieu* of the dirty and forlorn Farringdon Market) having, by an Act of Parliament obtained by the Corporation, been set apart for the purposes of a fish-market, the necessary works to fit it for its altered uses are in progress. The paving of the area is complete, the gates and gullies to enclose the market and interior shops are in hand, and all other arrangements are being pushed forward so as to open the market at the earliest possible period The City architect (Mr. Horace Jones) is in communication with the railway authorities in reference to the utilisation of the basement for market purposes. The buildings comprise a market area surrounded by shops, the whole being enclosed by iron gates at the various entrances, while externally, and with access from the public roads, there are shops surrounding the market.

National Portrait Gallery.—A complete re-arrangement of the pictures and sculpture in the National Portrait Gallery has been resolved on, and will be commenced forthwith. The portraits formerly in the British Museum and Hall of Serjeants' Inn will no longer be kept apart, but incorporated chronologically in the general series. Every picture will have, according to rule, a distinct statement on the frame of the donor's name. It is not intended to close the whole of the gallery during the alterations, but one portion or another will always be open to the public.

Glazing. — Messrs. William Edgcumbe Rendle & Co., of Westminster, have been selected by the Directors of the Great Northern Railway Company of Ireland to glaze their new terminal passenger station in Amiens-street, Dublin, on the "Acme" system of glass roofing. We are informed that the company have used Rendle's method of glazing solely for the last three years on their new stations and goods sheds.

TENDERS

For additions and alterations to Gatti's Music-hall, Westminster Bridge-road. Mr. Albert Jno. Bolton, architect:—

Holliday & Greenwood	£4,777 0 0
MacFarlane Bros.	4,720 0 0
G. S. S. Williams & Son	4,677 0 0
Nightingale	4,567 0 0
W. T. Hook	4,360 0 0
Niblett	4,355 0 0
Richens & Mount	4,329 0 0
Geo. Gaisford	4,296 0 0

For re-building the Sir John Falstaff, Catherine-street, Strand, for Mr. Elvin. Mr. Ernest Shum, architect, 14, Great James-street. Quantities by Mr. J. G. Raynes:—

J. H. Maxfield	£1,419 0 0
W. & H. Salmon	1,129 0 0
F. & F. J. Wood	1,083 0 0
Langmead & Way	1,040 0 0

For alterations and additions to stable buildings for fifty horses in Barnard's-mews, Little Guildford-street, Bloomsbury, for Messrs. Smith & King. Mr. Frank Goldring, architect, 32, Theobald's-road, Bedford-row:—

Surridge	£483 0 0
Roberts	470 0 0
Conway	437 10 0
Aldridge & Jenvey	334 12 0

For the erection of a new theatre, to be called the Grand, on the site of the old Philharmonic, Islington, exclusive of decorations, upholstery, &c., for Mr. Charles Head. Mr. Frank Matcham, architect, Rugby-chambers, Bedford-row. Quantities by Mr. Frederick Thomson:—

Corrected List.

J. H. Brass	£12,300 0 0
E. Lawrance	12,200 0 0
Colls & Sons	11,900 0 0
W. Bangs & Co.	11,860 0 0
Dove Bros.	11,775 0 0
G. S. Williams & Son	11,692 0 0
Longmire & Burge	11,135 0 0
McCormick & Sons	10,755 0 0
W. Shurmur	10,548 0 0
Chas. Wall	9,956 0 0
Wall Bros.	9,874 0 0
E. Toms (accepted)	9,719 0 0

For the erection of new premises, near Coventry-street, Haymarket, for Messrs. Salomon & Simmons. Mr. H. H. Collins, architect:—

McLachlan	£22,100 0 0
Bywaters	21,945 0 0
Tongue	21,321 0 0
Kirk & Randall	21,230 0 0
Adamson	21,049 0 0
Killby	20,987 0 0
Croaker	20,940 0 0
R. Conder	20,850 0 0
David King & Son	20,810 0 0
Morter	20,606 0 0
Downs	20,440 0 0
Brass	20,093 0 0

For the erection of tramway stables, car-sheds, &c., for the South Shields Corporation. Mr. Matthew Hall, borough engineer. Quantities by Mr. Geo. Connell, Moseley-street, Newcastle-on-Tyne:—

Holliday & Christie, South Shields	£4,870 19 0
Hurst, Sunderland	4,861 17 0
Broomhead & Keswick, Newcastle	4,770 0 0
C. Jackson, Newcastle	4,720 0 0
G. Leighton, North Shields	4,693 6 0
D. Lawes & Co., South Shields	4,684 12 8
Middlemas Bros., Newcastle	4,647 19 0
John Moore, South Shields	4,600 0 0
F. Mackey, South Shields	4,597 0 0
J. Elliott, North Shields	4,455 0 0
J. Storar, Jarrow	4,373 0 0
R. Atkin, South Shields	4,436 0 0
A. Thompson, Gateshead	4,365 11 2
Jos. Miller, South Shields	4,295 17 7
D. Kennedy & Son, Jarrow	4,280 0 0
R. Allison, Whitburn (accepted)	3,964 0 0

For works at Undercliffe Wharf, Maidstone, for Messrs. Henry Wright & Son. Messrs. Ruck, Son, & Smith, architects. Quantities supplied:—

Thos. Barden, Maidstone	£1,819 0 0
Garlick, Birmingham	1,707 0 0
White & Joy, Maidstone	1,698 7 0
Cox Bros., Maidstone	1,645 0 0
J. G. Naylar & Son, Rochester	1,640 0 0
R. Avard, Maidstone	1,631 0 0
Wallis & Clements, Maidstone*	1,553 0 0

* Accepted.

For alterations and additions to No. 453, Bethnal-green-road, for Mr. Joseph Smith. Mr. Joseph Harris, architect:—

Staines & Son	£1,444 0 0
Forrest	1,287 0 0
Thomerson & Son	1,225 0 0
Russell	1,221 0 0
Johnson	1,190 0 0
Young & Son	1,100 0 0
Parrish & Hawker (accepted)	1,090 0 0

For alterations and additions to the Two Brewers, Pentonville, for Mr. E. Richens:—

Parrish & Hawker (accepted).

For re-building Nos. 67 & 69, Newington Butts, for Mr. Thompson. Mr. Banister Fletcher, architect:—

Eldridge & Gee	£1,480 0 0
W. H. Castle	1,319 0 0
J. Taylor	1,215 0 0
H. Burman (accepted)	1,159 0 0

For High-street (Rectory) Improvements, for the Beckenham Local Board. Mr. G. B. Carlton, surveyor to the Board:—

Contract No. 1.

F. D. Carter & Son, Westminster	£1,846 1 6
W. Crockett, Camden Town	1,630 19 3
W. Carter, Anerley	1,356 19 11
H. T. Pollard, Bromley	1,353 14 9
T. Bentley, Chislehurst	1,343 2 8
Mowlem, Burt & Co., Westminster	1,341 18 6
Nowell & Robson, Kensington	1,319 0 4
Marshall, Brighton	1,177 7 6
Woodham & Fry, Lewisham	1,145 0 0

For effluent water sewers, Ealing and Brentford Drainage. Mr. Chas. Jones, engineer to the Ealing Local Board. Messrs. Gotto and Beesley, engineers to the Brentford Local Board:—

Contract No. 1.

W. J. Botterill, Cannon-street	£6,997 0 0!
Kellett & Bentley, Queen Victoria-street	6,306 0 0
F. Nowell, Shepherd's-bush	5,998 0 0
Jos. Mears, Hammersmith	5,500 0 0
J. Hayward, Eastbourne	5,427 0 0
Nowell & Robson, Kensington	5,376 0 0
J. Strachan, Wood-green	5,150 0 0
J. Ball, Chiswick	5,069 0 0
J. G. B. Marshall, Brighton	5,000 0 0
G. Law, Kidderminster	4,993 0 0
G. G. Rayner, Bootle	4,665 0 0
McKenzie, Williams, & Co., South-place, E.C.	4,380 0 0
J. Dickson, St. Alban's	4,354 0 0
Ford & Everett, Westminster*	3,800 0 0
J. Dooley, Tottenham	3,053 0 0!

* Accepted.

For verandah, greenhouses, &c., at The Hawthorns, Bromley, Kent. Mr. St. Pierre Harris, architect, 1, Basinghall-street:—

Crossley, Bromley (accepted) £354 0 0

For erection of stabling at Kensal-green, for the London General Omnibus Company, under the superintendence of Mr. Lanham. Quantities by Mr. H. J. Bolton:—

W. T. Hook	£3,688 0 0
Niblett	3,293 0 0
Jackson & Todd	2,815 18 0
J. Crabb	2,720 0 0
E. C. Ford	2,639 0 0
H. D. Evans	2,567 0 0
J. Garrud	2,531 15 0
M. Gentry	2,500 0 0
Richens & Mount	2,497 0 0
E. Bentley	2,480 0 0
Geo. Parker	2,449 0 0
Haynes	2,400 0 0

For alterations and repairs to the New Tabernacle Chapel, Old-street. Mr. William Smith, architect:—

Shurmur	£1,275 0 0
Anley	1,270 0 0
Harper	1,238 0 0
Steele Bros.	1,198 12 0
Mattock	1,153 0 0
Wood	1,095 0 0
Dunford & Langham	1,079 0 0
Larke	1,030 0 0
Stevens Bros. (accepted)	970 0 0

For erection of All Souls' Church, Clapton Park. Mr. F. T. Dollman, architect, 63, Gloucester-crescent, Regent's Park. Quantities by Mr. F. W. Davis, 6, Duke-street, Adelphi:—

W. T. Hook	£6,220 0 0
E. Lawrance	6,145 0 0
Dove Bros.	5,975 0 0
Ashby Bros.	5,348 0 0
B. E. Nightingale	5,341 0 0

For erection of school buildings, Bexley Heath, Kent. Messrs. A. & C. Harston, architects, 15, Leadenhall-street:—

Gumbrell	£2,010 0 0
M. Manley	1,949 0 0
W. & F. Croaker	1,833 0 0
Miles	1,754 0 0
Butler	1,680 0 0
Balaam Bros., Old Kent-road*	1,500 0 0

* Accepted.

For painting and repairs at the Able-Bodies Workhouse, Mary-place, Notting-dale, for the Guardians of Kensington. Messrs. A. & C. Harston, architects:—

A. W. Derby, Limehouse (accepted) ... £134 0 0

For pulling down and re-building Feltham Lodge, Feltham, Middlesex, for Mr. Thomas Woodward. Mr. Fred. Nesbitt Kemp, architect. Quantities by Messrs. Maughan & Cuxson:—

Daniels	£5,300 0 0
W. Lodge	5,113 0 0
Haylock	4,685 0 0
Downs	4,294 0 0
W. H. Smith	4,289 0 0
H. Smith	3,989 0 0

For hospital for the Boys' Home, Bisley, for the National Refuges Society. Mr. E. P. Loftus Brock, architect:—

Mattock Bros.	£1,076 0 0
Brass	1,067 12 3
Shears	965 0 0
Brown	960 0 0
Faggetter	944 17 0
Whitburn	866 0 0

For alterations and additions to Nos. 31 & 32, Crown-street, Brighton. Mr. Arthur Loader, architect, Brighton:—

W. Hackman	£687 0 0
G. R. Lockyer	660 0 0
J. M. Newnham, Brighton	620 0 0

For mansion at Henfield, Sussex. Mr. Arthur Loader, architect:—

W. Ward, Henfield (accepted).

For house, New Shoreham, Sussex. Mr. Arthur Loader, architect:—

C. Curd, Shoreham (accepted) £350 0 0

For building high brick ventilating-shafts at outfall chamber and air-inlets to main sewers, for Local Board, New Shoreham, Sussex. Mr. Arthur Loader, surveyor:—

C. Curd, Shoreham (accepted).

For wrought-iron up-casts, ventilating-pipes, for above:—

Burtenshaw, Shoreham (accepted), 5s. 8d. per yard.

For boundary fence-wall and gates to outfall works, for Local Board, New Shoreham, Sussex. Mr. Arthur Loader, surveyor:—

C. Curd, Shoreham (accepted).

For two houses at Worthing, Sussex. Mr. Arthur Loader, architect:—

E. Seaber, Worthing (accepted).

For new wing to the Ship Inn, Southwick, Sussex. Mr. Arthur Loader, architect:—

Redford	£347 10 0
J. Terry	330 0 0
W. Miles	329 5 0
H. J. Peters	314 10 0
T. Peters	296 16 1
C. Curd	276 0 0
J. King, Southwick (accepted)	235 10 0

For erection of six houses at Whitton. Mr. Fredk. Lea, architect, 19, Buckingham-street. Quantities supplied:—

Hickinbotham Bros.	£2,540 0 0
Hiscocks	2,450 0 0
Hughes	2,109 0 0
J. Holloway, Lavender-hill*	2,093 0 0

* Accepted.

For alterations to three shops and sundry repairs. Mr. Fredk. Lea, architect:—

J. Holloway (accepted) £474 0 0

For the works required in the execution of an additional relief line of sewer on the south side of the Thames, with an outlet into the Thames at Deptford-green, for the Metropolitan Board of Works. Sir Joseph Bazalgette, engineer :—

W. T. Hook	£68,000 0 0
Nowell & Robson	64,000 0 0
W. J. Botterell	45,452 0 0
Nelson & Co.	45,184 0 0
H. Lovett	43,500 0 0
Macreagh & Macfarlane	42,415 0 0
W. Webster	39,932 0 0
Williams, Son, & Wallington	36,370 0 0
Kellett & Bentley	36,000 0 0
J. Mowlem & Co.	35,490 0 0
Pearson & Son (accepted)	33,990 0 0

For rebuilding No. 10, St. Swithin's-lane, E.C. Mr. Wimble, architect :—

Hall, Beddall, & Co.	£7,383 0 0
McLachlan & Sons	7,337 0 0
Ashby & Horner	7,250 0 0
Scrivener & Co.	7,225 0 0
Morter	7,173 0 0
Dove Bros.	7,000 0 0
Laurence	6,890 0 0
Brass	6,823 0 0

For reservoir, engine-house, &c., at Swinton Waterworks, Rotherham :—

H. Brumby, Sheffield	£4,157 0 0
Chadwick & Co., Masborough	4,100 0 0
J. Hill, Sheffield	4,016 19 11
G. Stephenson, Eckington	3,999 13 9
Dobb & Gummer, Rotherham	3,730 0 0
J. Cropper, Brimington	3,276 8 10
B. Wortley, Doncaster	3,012 15 2
H. Burrows, Barnsley	3,004 15 7
G. Pugh, Rawmarsh	2,869 0 0
D. Arundel, Swinton (accepted)	2,753 17 9

For water-mains, valves, hydrants, and laying the same, for the Swinton Waterworks, Rotherham :—

M. Barber, Barlborough	£1,307 18 6
Hutchinson Bros., Barnsley	1,207 17 0
J. Stephenson, Eckington	1,177 15 9
Chadwick & Co., Masborough	1,098 0 0
J. Hill, Sheffield	1,077 17 0
Dobb & Gummer, Rotherham	1,076 16 9
J. Cropper, Brimington	1,010 13 4
F. Boole, Rawmarsh	1,005 10 6
D. Arundel, Swinton (accepted)	975 5 4
Haggard & Son, Mexborough	957 12 2

For additions and alterations to Rathmore Lodge, The Boltons, Fulham-road, for Mr. J. Turnbull. Messrs. William Wallace & Flockhart, architects. Quantities by Mr. Frederick Thomson :—

S. G. Bird	£2,792 0 0
P. S. Robertson	2,683 0 0
W. & E. Curtis	2,660 0 0
E. Toms	2,483 0 0
J. H. Brass	2,460 0 0
C. Wall	2,377 0 0
Dowsing & Sons	2,247 0 0

For taking down mansion known as Medina House, High-street, Witham, Essex, and building three residences on the site :—

W. Balaam, Trinity-street, Borough, London (accepted)	£1,200 0 0

For proposed stabling to No. 5, Seymour-road, Wandsworth. Mr. Joseph S. Hansom, architect, 27, Alfred-place West, South Kensington :—

T. Seward	£685 0 0
F. F. Buchan	635 0 0
F. Reeves	623 5 0
J. Newton	600 0 0
W. Pearson	592 0 0
J. Sutton	550 0 0
J. Tyerman	549 0 0
W. Webber	536 0 0
W. Bullock	530 0 0
R. Jones	526 18 0
Holloway Bros.	526 0 0
Langler & Pinkham	525 0 0
J. Robinson	519 10 0
H. R. Swain	519 0 0
W. H. Lorder	510 0 0
E. H. Maplesdon	497 15 0
F. P. Treweeke	495 0 0
C. Collins	481 0 0
R. M. Rowse	453 10 0
Higgatt & Brown	452 13 6

For new shop-front at 124, High-street, Stoke Newington, for the Incorporated Society of Licensed Victuallers. Mr. H. I. Newton, architect, 27, Great George-street :—

Drew & Cadman	£103 8 0
Walker	96 0 0
Sage	90 0 0
Pickersgill Bros. (accepted)	79 0 0

For alterations and additions to Nos. 49, 51, 53, and 55, Falcon-road, Battersea, for Mr. W. P. Holland. Mr. Harold Giffin, architect :—

Lathey Bros.	£1,197 0 0!
Eberall	1,035 0 0
B. T. Wood	959 0 0
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For pulling down the old Silk Factory, London-road, Newbury, and building on the site seven cottages, with out-buildings, for Mr. Charles Nukey. Mr. J. H. Money, architect, the Broadway, Newbury. Quantities supplied by Messrs. R. L. Curtis & Sons :—

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Adey	1,885 100
Harrison	1,535 —
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The Builder.

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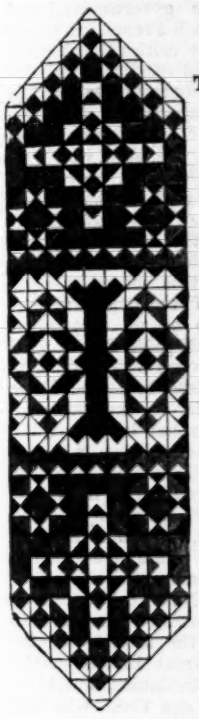


Old Buildings and New Decorations.

IT is an obvious fact that many buildings in occupation must require a renewal of their internal decoration much oftener than the building itself requires renewal. There are cases in which the decorations of a building, the main portions of which were completely finished from the first, have never been completed at all, and have still to be carried out when a new interest is imparted to the building from its passing into the hands of a new proprietor, or from any other reason. In such cases is it *de rigueur* to comply with the style of the building itself, whether we admire it or not? Or may we not decorate from our own point of view, and in accordance with our own taste?

The question is sometimes suggested by the sight of a proposed scheme for decorating a building under such circumstances. We have, perhaps, a church which belongs to what we will call the Late Classic period of English architecture, which has been left, as so much of the said Late Classic architecture actually was left, in a very bald and prim state of unadornment. A new incumbent or a new churchwarden desires to raise the building from this pristine state into one of comparative beauty and magnificence, and asks for a scheme of decoration. The purist system is to decorate the building as those who built it would have decorated it. The intending reviver of the glory of the structure will, in that case (supposing still that it is Late Classic), receive a scheme for his consideration embodying among its details many wreaths and festoons, some hanging vertically, some horizontally; ribbons will appear here and there tied in knots and with the ends fluttering away in plaster; puffy little cherubs (so called, of course, because they are in a church, but looking much more like Cupids) will sprawl on various surfaces that may appear open to receive them. If colour is introduced, it will not be such as we, since our partial enlightenment in regard to colour, could approve of; it will be such as is found in decorators' sketch-books of the supposed period, showing strange and awful combinations of pink and green, such as we know to be contrary to all the law and the prophets. Yet these sins will be proposed, because it is known, and we cannot deny it, that the original architects of the building would have done thus if they had done anything.

The case was, occasionally still is, the same when the question is of a Mediæval building, supposed perhaps to have been once coloured, or once meant to be coloured. The unfortunate example of a certain ancient church near Winchester is a conspicuous one, known to most people who have interest in such matters. There are other examples from our cathedrals that might be quoted, in which decoration of a very violent and glaring kind has been introduced, with much raw primary colour, offensive to the delicately-trained eye, but introduced, because certainly the Mediæval decorators would have worked in these strong colours, and perhaps have left faint but readily comprehensible traces of the fact that they did so. Our taste of late years has been trained to dislike masses of primary colour, and at present the prevalent taste is, in fact, towards an over-fondness for weak and often nearly colourless tones; yet if we decorate a Gothic church we are ready, or some of us are, to throw overboard all this certainly more refined (no doubt sometimes over-refined) taste for pale tones, and adopt the taste of the Mediævalists for strong colours.

Now we wish to suggest that when an architect or decorator is called in to design or advise upon the new decoration of an old building, it is not necessarily his part to reproduce something like what the original architects would have done, unless this happen to be in accordance with the best taste in decoration as understood and believed in his own innermost artistic conscience. If the building had altogether decayed, and had to be removed and a new one built, no one would say that it was the architect's duty to build a new one exactly like the old one. On the whole, he would rather be blamed for doing this, as producing a sham. Nor is it any more his duty, if the decoration of the building be decayed, whitewashed over, or non-existent from the first, to produce new decoration which shall be an imitation of the old, or of what it is presumed the old would have been if it had ever been executed. This is as much a sham as the new building.

But is he not bound, it may be replied, to consider the style of the building, and harmonise his decoration with it? Yes, in a sense, undoubtedly; but not necessarily in the precise manner in which the original artists would have done it. That is not harmonising; that is merely mimicry, and may often involve the throwing away of an excellent opportunity to improve an old building and to set up a new standard of taste, or the commencement of one. It is surely a very poor course for a modern designer to take, to say practically, "The people who erected this building knew nothing of colour, and had very vulgar ideas about the *motifs* and the execution of decoration, and therefore in decorating their building I will reproduce all their deficiencies and vulgarities faithfully." What we should rather endeavour to do should be to devise a scheme of decoration which, while avoiding the errors and shortcomings of the style of the original building, should yet harmonise with its general lines and with the general purport and feeling of its architecture. To attempt to decorate in that spirit would render the task worthy of being called an intellectual one, which the mere correct reproduction of a bad or vulgar style certainly is not. It would be a matter of serious interest to devise a style which should retain sufficient suggestions and reminiscences of the kind of decoration originally belonging to the architectural date of the building, and which at the same time should show that the modern decorator is not in the trammels of his perhaps less cultivated predecessors. His decorative scheme should seem in itself to say to the spectator, "We know how the original architects would have done this, but we also know better than to fall into all their weaknesses and vulgarities of style."

These few remarks, partly suggested by a certain design, never mind where, in which all the weaknesses and tawdrinesses of the Wren school of ornament, with Cupids, ribbons, and what not, have been deliberately reproduced for the edification of the present generation, out of an over-acted desire for "harmony," fortunately seem about to receive illustration in the opposite direction by what is being designed for the decoration of St. Paul's Cathedral. In that scheme there certainly seems to be the attempt to produce something which shall be sufficiently in relation to the architectural style of the building, and sufficiently suggestive of what would have been Wren's decorative idea if he had ever had it carried out, while avoiding any of the more prominent faults of the Wren school of detail and of ornament, and suggesting something much superior, in fact, to what would have occurred to him or his contemporary artists. And fortunate indeed it is that this is so, and that no misguided attempt has been made to produce exactly what would have been done in Wren's day had the funds for decoration on a large scale been forthcoming at that time. The mere idea of St. Paul's Cathedral so bedizened as it would have been with Cupids and clouds and ribbon-knots, ought to be sufficient to convert even the most ardent adherents of "truthfulness" in such matters, and certainly suggests a powerful, even a formidable, illustration of our present observations.

Public Works in India.—Strong statements as regards the evil of the system under which public buildings are erected in India are being published. We have before now pointed this out at some length.

THE WEST FRONT OF RHEIMS CATHEDRAL.

"The west front of Rheims Cathedral," says M. Viollet-le-Duc, "is one of the most splendid conceptions of the thirteenth century." As such, no one who has the smallest interest, whether as a professional or an amateur of art, should fail to visit it. But if there is one absurdity more common in these days than another it is for persons to stare for two or three hours at a building such as Rheims Cathedral, which it is impossible to appreciate without some thoughtful and careful observation. We should hope that all architectural students who may visit this, or indeed any other European, cathedral will never give way to this "return-ticket fashion," if we may so say of seeing notable works of art. Those who do so, whether they be students of architecture or ordinary tourists who go to work in this hasty manner, are simply throwing away their money. Of course, numbers of the latter, at any rate, daily do so, but the actual pleasure obtained by merely seeing a new sight may in their case seem to them a sufficient recompense. But it cannot be one to the visitor with more serious motives. We have no intention of writing a description of the splendid pile so historically interesting also as the crowning place of the kings of France. The architectural student has no need to go beyond several well-known and standard works for a careful account of this splendid church. It may be useful, however, if we make mention of a local handbook to this building of a much higher class than is usually the case with works of this kind. It is entitled "Description Historique et Archéologique de Notre Dame de Reims. Par M. l'Abbé V. Tourneur, Vicaire-Général de S. E. Monseigneur l'Archevêque de Reims, &c. 4me. édition. Reims: E. Deligne, Libraire de l'Académie. 1880." It is, in truth, a much more thorough work than its author's modest preface would lead one who had not perused it to suppose. It may be asked, if we are not going to describe Rheims Cathedral, what, then, have we to say about it? Our answer is, that the west front cannot be studied without two very important conclusions being formed in the observer's mind, one of which, at any rate, is both interesting and important in regard, not only to the study of architecture historically, but to the practice of it as a profession. These two points, if we may so term them, are, firstly, that this west front shows at once the limits beyond which elaborate sculpture, as an architectural adornment, is more or less useless, and those within which it is not only a real addition to the architectural beauty of an edifice, but also valuable for its own sake as sculpture; secondly, in no building is there more discernible the loving study bestowed on large portions of Mediæval work, the way in which the whole design is governed by one central idea, and the skill and purity of Mediæval sculpture, as well as its unequal character.

The correctness of these positions when once formulated can be easily judged of by any one who visits Rheims; it is difficult, on the other hand, for any one who has not before his eyes the elaborate details of the great west front either to agree with or to dispute them. Take, however, the flat portion above the arch which, in its turn, surmounts one of the chief glories of Notre Dame at Rheims, the large rose-window, full of glass of the mellowest and most harmonious colours. This flat space forms the background for sculpture which, on the right, shows David casting the stone at Goliath of Gath; in the left, the future king of Israel with outstretched arms about to sever the head from the body of the giant. Trees, sheep, and dogs are the accessories of the main part of the sculpture, and the whole forms a very elaborate graven incident of Holy Writ. But the careful work is more or less thrown away, the distance of the picture, as we may be allowed to term it, from the spectator prevents the figures from having greater importance in the design of the whole front than the finials, for instance, which surmount the pinnacles on either side of this scene, and a somewhat larger and more elaborate arch to have filled up most of the space occupied by this sculpture would probably have been more architecturally effective. Again, too, the careful workmanship of the smaller statues which fill the gable of the doorway is to a great extent labour in vain. The converging lines for the sake of architectural effect necessarily cause the figures to be in various degrees away from the perpendicular. There are, in fact, no less than seventy-five statues to bring before us the saints of heaven, who may be said to prepare the mind of the worshipper as he enters to observe with due reverence the Coronation of the Virgin, which in large sculpture in the round fills the extreme angle of the arch. On the other hand, let us take as instances of the effective use of statuary as showing the limits within which it adds to the beauty of an edifice, and can be, for its own sake, appreciated,—the large figures which guard the three doorways. For example, the centre doorway is double, and is divided by a statue of the crowned Virgin, who stands, so to say, on a pedestal some 4 ft. from the ground, and consequently watches, as it were, the worshippers who enter the church which is dedicated to her. Nothing could be more effective, and in no way could sculpture be more properly utilised. It is impossible to enter without every fold of the dress, every feature of the face, being seen. The same may be said of the four statues on either side of the double doorway, past whom any one who would enter the church must go. They lead up to the central figure of the Virgin, and they depict, on the one side, the Annunciation and Visitation; on the other, the Purification; and let it be borne in mind that the open space in front of a great cathedral was a spot much thronged in bygone days, and then it will be obvious that the use of sculpture in such a way as this would doubtless have a powerful effect on the minds of the uncritical people who thronged the portals of the church. But even for secular purposes groups of sculpture adequately treated and used in this manner cannot fail to be effective. Many of our readers can call to mind the sides of London University which face to Burlington-gardens, or of the Glyptothek at Munich, both of which have statues of great men placed at certain distances along the wall, duly "labelled" with the names of those whom they are intended to represent. Architecturally this arrangement is quite ineffective: the statues do not at all enter into any design, and the monotonous array is far from beautiful. Neither have they the finish and the life-like character of really good works in marble, so that, to some extent, it is degrading sculpture to use it in such a manner. The most ridiculous instance, however, of this which we can call to mind are the figures on the new Knightsbridge barracks of cavalry soldiers of the olden time, in costumes which are much better left alone in old prints, and which certainly should not be perpetuated in stone in the most crowded drive in the world.

It may almost be gathered from what has already been said, how immense a quantity of reverent thought must have been bestowed, extending over a number of years, upon this front, and how carefully and clearly the main object was kept in view, namely, to honour the Virgin and to make her story stand out conspicuously. What we would, however, more particularly point out is the manner in which the Rheims sculpture exemplifies the sculpture of the Middle Ages. We need go no further than the chief doorway for this purpose. The figure of the Virgin in the visitation is full of womanly dignity. Technically the garments are draped in admirable lines, but it is more especially the quiet dignity, not only of the features, but of the whole figure, which renders this statue noticeable as showing the excellence to which some Mediæval sculptors attained. Many, too, of the smaller figures about this porch, such as those fragments which depict Adam and Eve in Paradise, show a remarkable amount of technical skill. On the other hand, the figure of the Virgin who stands between the two doorways is, as regards the face, quite wanting in all the finer attributes which distinguish the secondary figure. Her features are disfigured by a silly and an affected simper; the statue which should be most impressive accordingly loses most of its effect upon an educated observer. Here, therefore, we have visible, without moving a step, examples showing what we have already mentioned,—that is, the skill and purity of Mediæval sculpture and its unequal character. If the main statue had been like that on the right hand of the entrance, it would have been even more impressive than the womanly figure which we so much admire. In the same way the nude and almost grotesque statues in the right portal, depicting, it has been supposed, some of the chief persons of the Old Testament, are in strong contrast with many of the dignified and lifelike figures which are so numerous in this west front. We might have fortified our positions with more detailed descriptions, and more elaborate arguments; but we desired rather to suggest these points to any one who might be about, either professionally or as an amateur, to study Rheims Cathedral, or who might in these recent summer and autumn days have visited this splendid church. Possibly there may be some who will not agree with these views; but they appear to us to be logical conclusions from a careful observation of this west front. And the other portions of the building,—the mass of sculpture, for example, in the interior above the main west door,—would, we are sure, serve further to uphold these views. But whatever opinion may be held, nothing can diminish the value of the west front of Rheims Cathedral to those who prize architectural and artistic masterpieces.

CONTINENTAL GATHERINGS.

In spite of the large governmental and private encouragement which French art yearly receives, it seems to some critics that French art is not in a very hopeful condition, and this view comes not alone from outside. Only within a few weeks past the late Henri Lehmann founded, by his will, an annual prize to be awarded to the author of the work which, by choice of subject,—composition, style, and execution,—shall be deemed to have indicated most strongly a protest against the decline of classic art, the exact opposite of which, the realistic tendency now in favour, M. Lehmann desired by this means in some measure to counteract. There might, at first sight, perhaps, appear to be no very great ground for deeply-expressed grief on our part as outsiders at a possible period of calamity overtaking our French artistic brethren. There is, however, another side to the question. France still remains, it cannot be denied, the great arbiter in art-matters; even were its powers to fail, it would still continue to retain its influence, for no other country is in a position to take upon itself such a heritage. Italy, Spain, Germany, Holland, Belgium, in spite of all their artistic talent, would be unequal to the task. Recently discussing this somewhat problematical subject, our New York contemporary, the *Critic*, has not hesitated to assert that the future possession of the artistic sceptre "lies more in the way of Great Britain or the United States. It cannot be denied now, however, although a few years ago those who had the nerve to prophesy in that direction were promptly laughed down, that the chances of supremacy in the fine arts are noticeably tending towards America. If the Parisian critics are alarmed at the excellence of the second-rate young painters of American pictures whom Paris and Munich have educated, they would be more alarmed could they know that the United States have other more original, more thoughtful, and more modest artists in reserve whose peculiar qualities will not soon be appreciated by Europeans, but of whose future eminence there can be no doubt." There is one view of this threatened downfall of French art, which is far from encouraging, however pleasing may seem the prospect of the lead being taken in this direction, either by us or by our American kinsmen. And this view may be said more particularly to regard American artists than ourselves. Paris, for many generations, has been their great artistic school, and of late years even more so than in the days when young Americans were to be found scattered about at Düsseldorf, at Weimar, and at Munich. Paris has of late carried off the palm as the art-teacher of the rising American painters, in spite of the fascinations of the modern Italian schools of Milan and Florence. That the chief source, therefore, of American art-study, and indeed for the matter of that, of the study of a number of young artists of almost every country should be corrupted, is a serious outlook. Parisian art-teaching, as it stands at present, has spoiled more than one clever young artist, not alone American, it may be observed. Be this as it may, whatever are the faults of French art, we are sadly afraid that we, however much our cousins may feel inclined to take upon themselves the inheritance, are scarcely in the position to set up our school as a model to the world. Our neighbours having taken from Italy three centuries ago the lead in artistic matters,

have wisely adopted measures to ensure the continuance.

An insight into the nature of these means is afforded by the announcement of the recent enlargement of the national Conservatoire des Arts et Métiers,—an admirable institution, a counterpart to which, though we are essentially a practical nation, is almost absolutely wanting in this country. It is, it may be observed, one of those numerous educational institutions which the French wisely throw freely open to the public on the Sunday afternoon. The Conservatoire des Arts et Métiers is justly credited with possessing probably the most extensive collection of industrial and scientific objects in existence. The lectures, open freely to all comers, and embracing the most comprehensive elements of artistic and industrial education, from chemistry and natural history to mechanics, weaving, printing, and political economy, are delivered by the most eminent French professors, while each year the collections are carefully enriched with models and specimens of the latest advances in art and industry. Intended, in fact, to spread among the dependent classes popular and thoroughly practical notions of industrial education, the Conservatoire des Arts et Métiers merits, it can be understood, no small meed of praise for its share in the modern artistic and commercial supremacy of France. It would be difficult to find any branch of industry, either purely scientific or connected with the arts, not adequately represented in this admirable institution, and not alone by modern models, but by, in many cases, historical objects. It would require somewhat more than the limits of a paragraph to describe, even hastily, the contents of the Paris Conservatoire des Arts et Métiers, a building in itself of no small antiquarian interest, established as it is in the Gothic priory of St. Martin des Champs, of which there still remain many beautiful details. It is one of the sights which no traveller should fail to see, a Sunday afternoon at the Conservatoire des Arts et Métiers, when the models are in motion, and, amidst the crowd of visitors, the more practical listen to the explanation of the good-natured keeper in charge of the various machines. The recent increase of the already large building by the addition of two wings, is a proof of the value which the Government rightly attach to the instructive value of the Conservatoire, one of the characteristic, but not sufficiently well-enough known, Government institutions of France.

This interference, as we should call it, of the State in all such institutions is, of course, peculiar to France, where, it must be remembered, incomes being much more equally distributed than with us, and where the comfort of the family depends far more on the labours of its head than as with us on accumulated riches, the aid of the State is almost everywhere necessary. The immense wealth of so many of our great families is, fortunately for us, not unfrequently exercised with the utmost intelligence and with a not ungenerous desire to satisfy the needs generally of the community, as also is the case in America, where it is no rare matter to meet with millionaires scattered over the whole country. France, however, does not belong to a limited landed aristocracy,—there are, if we mistake not, hard on 20,000,000 of landowners in France,—while, active as is its industry, it cannot be said to offer so extended a field for enterprise as the great continent of America. It can be understood, therefore, that, when a special Minister of Agriculture was appointed not so long since in a country where agricultural products are one of the chief sources of wealth, the promise of the institution of a regular system of State insurance against the possibility of loss by inundation, frost, &c., has been hailed with delight. The Chambers have annually to vote large sums to indemnify the farmers for such accidents. The amount of damage which is yearly worked among the crops and vineyards by the weather, by hail and frost, is no small matter. Hailstorms will ravage in a few hours a fourth of the country. The injury worked is variable, but always considerable. Damage to the extent of over ninety-one millions of francs (hard on four millions sterling) was the result of hail alone in 1876. A frost has been known to inflict a loss of over three millions sterling on the country; a recent authority has estimated the mean annual loss at about 350 millions of francs, or about fourteen millions sterling. In cases of this kind, where no system of insurance exists and the small capitalist is ruined, the aid of the State, it is urged, can be most efficiently introduced. By the formation of a Government insurance company, with no exacting shareholders to satisfy, and no dividends to declare, the premiums will be naturally small. Loss, while it will diminish the general public fortune, will not totally ruin the small capitalist. Taxes will be necessarily lightened, as the Chamber has annually to vote large compensations to the unfortunate farmers. At a moment when, in our country, the land question is being daily agitated, and the proposal has gone forth to appoint a special Minister of Agriculture, such a scheme as this of our neighbours is worthy attention.

What may be done by enterprise towards reclaiming from the effects of nature whole tracts of rich land, has been shown the world by Holland. The old traditions are worthily kept up there. The work of reclaiming the southern portion of the Zuyder Zee may be said to be almost terminated. On the limits of the reclaimed land a huge cement-cased reservoir is now being dug in the sand. This reservoir,—some 25 miles long,—will be about 6 ft. above the highest tide of the Zuyder Zee; the work, it is estimated, will occupy seven to ten years.

In the excavations necessary for this immense undertaking we have not heard of any archæological discoveries having been made; the ground is not so fertile in possible finds as Mexico would appear to have proved to M. Charnay, who has lately sent home a most glowing account of his recent discoveries in Central America. M. Charnay, it may be remembered, we announced some time since, had been specially despatched to the New World to explore the peninsula of Yucatan and those phantom cities which, half a century ago, Stephens described so graphically. Leaving Tabasco, M. Charnay organised an expedition to Frontera, went up the Oucon Macinta to a point where his further advance by water was arrested by the floating mahogany set adrift by the lumber-men, but continued his movement eastwards by means of a caravan, and before long, on a strip of land claimed by Guatemala, M. Charnay had the joy of discovering a series of ruins covering a space of over a mile in length. The monuments are in the style of those at Palenquè. Unfortunately here, as there, the decorations being in stucco, most of the bas-reliefs are in terrible condition, only five having remained intact. From the *Courrier des États-Unis* we learn that the casts of these are already on their way to Paris. In the decoration, the cruciform symbol has been found, but in no way resembling the Christian cross, but rather the Bouddhic; the possible connexion between the art of Central America and that of Java has, it may be remembered, been pointed out in these pages. M. Charnay saw also a number of vases which served for the religious sacrifices that half a century ago the people still offered up on this sacred spot, a fact which brings us to a period much nearer than was at first believed. The ruins of Yucatan must, in fact, be considered as the ruins of quite modern monuments. Out of gratitude to Mr. Lorillard, of New York, who so generously assisted the expedition, the ruins discovered have received the name of "Lorillard City." M. Charnay is now in Mexico, where he has been busily obtaining casts of the principal monuments in the museum of that city, with a view to enriching the Paris Museum of the Trocadéro with some interesting specimens of the native art of the New World.

Each year, as we have more than once explained, the French Government devotes a very generous sum to the restoration and maintenance of its historic monuments. This sum, on an average about 60,000*l.*, is applied to a certain number of works, which, as they are completed, are replaced by others on the list. The programme for 1883 of the Commission which is entrusted with the supervision of the historic monuments has just been published, and the list, filling half a column in small type of the *Journal des Débats*, embraces the whole country from the Ardennes in the north to Vienne in the south, the château de Coucy, the cathedral of Laon, the ramparts of Carcassonne, the amphitheatre of Arles, the cathedral of Lisieux, the château of Blois, the château of Pierrefonds, the Cluny Museum, the Abbey of St. Denis, the chapel of the château of Vincennes, the Tour de Montléry, the antique theatre of Orange, being the more familiar features mentioned amidst a crowd of most interesting architectural monuments. A large number of new works is projected, together with the restoration and maintenance of a number of mosques and Roman monuments in Algeria, and megalithic remains scattered over Brittany.

THE JARDIN DES PLANTES.

We have recently given, in these pages, a view of the new Zoological Museum erected in the Jardin des Plantes at Paris.* As in the case of our own Natural History Museum,—as, indeed, in that of all the great national collections of the present day, the necessity for an extension of premises is continually making itself felt. Although the large new Natural History Museum in Cromwell-road has allowed the British Museum authorities somewhat more room for the disposal of their collections, and only a few days ago the first stone was laid of a new wing to accommodate the Print Department, yet still the Great Russell-street institution will be far from sufficiently supplied with space to display its yearly increasing treasures.

It is the same with the venerable Jardin des Plantes, which, from the humblest commencement, has conquered a foremost place among the scientific institutions of the world. It has long been one of the most characteristic features of the French capital, and in the midst of the modern improvements which are sweeping away in every direction the Paris of the past, the Jardin des Plantes still retains in its aspect something of the air of the century in which it was founded. Its importance as a scientific institution may be judged when it is stated that, in itself, it in reality combines all the features of our Zoological Gardens, our Natural History Museum, our Kew, our Botanical and Horticultural Gardens, the Museum of Economic Geology, our College of Surgeons, and, in a manner, our London University and King's College.

Officially known as the "Museum of Natural History," it numbers among the professors who compose its staff and deliver the nineteen different courses of gratuitous public lectures, the most distinguished *savants* of France. Its past history is no less connected with names, many the most revered in the progress of modern science; the memory of the learned Buffon, of the gentle Bernardin de Saint Pierre, the author of "Paul and Virginia"; and of that master-mind, Cuvier, the Owen of France,—all directors of the Museum, suffice to give something more than an ordinary interest to the Jardin des Plantes.

Far from the bustle and roar of Paris, in a remote corner of the busy metropolis,—the finest view of the cathedral of Notre Dame, with its delicate flying buttresses, is to be obtained on the way to the Jardin,—the garden, with its prettily-broken ground, its menagerie, its hot-houses, its scattered galleries, its clumps of old trees, its avenues and beds of flowers, is a sight which no visitor to Paris should fail to see. The air of the seventeenth century, when the garden was first organised, seems to linger about the spot. Originally intended by its founder, Guy de la Brosse, as a garden like our own Botanic Garden of Simples at Chelsea,—which Evelyn mentions having visited in 1685, August 7,—for the cultivation of medicinal herbs, Louis XIII. in 1626 gave his protection to the undertaking of his doctor in ordinary. From this simple commencement, and on some broken ground belonging to the convent of St. Victor which the garden occupies,—to the existence of which it owes not a small portion of its present charm,—grew the existing Museum of Natural History. A school of botany, chemistry, natural history, and astronomy was founded, and when, in 1641, Guy de la Brosse catalogued his collection, it was found to contain 2,360 specimens of plants.

Under the beneficent rule of Colbert,—whose Scottish origin we should never forget,—the Jardin des Plantes was essentially one of those national institutions such as the great Minister of Louis Quatorze loved to encourage. In 1700 Tournefort, whose bust appropriately figures on the façade of the new museum, travelled for the Jardin, in the Levant, with Aubriet the painter. In 1708 two hot-houses were built, and the brothers Jussieu brought home from the furthest corners of Europe and Asia fresh rarities to enrich the collection. The sturdy old cedar-tree, the first brought to

* See pp. 492, 503, *ante*.

Europe, which still rears its now diminished head,—snapped off by lightning some years ago,—was planted as far back as 1738. In the botanic garden at Chelsea, the solitary cedar which remains still standing, picturesquely breaking from the river the long line of the Embankment, was planted fifty years earlier (1683).

With the year 1739 Buffon, of memory ever fresh to young and old alike, became director of the Jardin des Plantes. A fresh impulse was given to the establishment under his energetic management, and the Rue Buffon of to-day fitly marks,—in accordance with the excellent custom of our neighbours, — the boundaries of the extended ground by which the great naturalist succeeded in enlarging the Jardin des Plantes. Specially interested as Buffon was in the natural history department, which he largely increased, the botanical and mineralogical sections were not allowed to suffer. From China the Jesuit missionaries sent home rare plants, the King of Poland presented to the museum his invaluable collection of minerals. The professors forming the staff were the most illustrious French scientific students; the Jardin des Plantes formed, in fact, the great scientific centre of the world. From a simple garden of medicinal herbs, the Jardin des Plantes became under Buffon the home of a representative collection of the riches of the whole realm of nature, while the garden was entirely remodelled on the plan that exists in the present day. Such was the work of the great naturalist whom tradition has represented as writing his well-penned pages in court attire, sword by side, wig duly powdered, and lace and ruffle on neck and hands. Buffon was a *savant* who was also man of the world enough to appear in society without making himself conspicuous by any affectation of carelessness, or studied indifference to what he felt was none the less than science an element of agreeable existence.

To Buffon, who died in 1788, succeeded in 1792 Bernardin de Saint Pierre, the charming writer whose "Paul and Virginia,"—"the swan song of old dying France," Carlyle has termed it,—was, so Humboldt tells us, his most constant companion in his tropical wanderings. Here, in the Jardin des Plantes, all through the wild days of the Revolution, Bernardin de Saint Pierre retained his post, and in the quiet of the picturesque ivy-covered house which still stands in the midst of the garden toiled to enrich the collection under his charge. The National Convention favoured the museum; twelve new courses of lectures were founded of mineralogy, general chemistry, ceramic art, botany, as studied in the museum, and botany as studied in the country,* agriculture, zoology, human anatomy, animal anatomy, geology, and iconography; while a new scientific library was open to the public in 1794. In 1802 commenced the publication of the "Annales," continued to this day as the "Mémoires du Muséum." The collection continued to increase with rapidity. Humboldt's famous collection of plants was added to the botanical department, while among the distinguished professors on the staff of the institution, Cuvier was at the head of the department of comparative anatomy, a science of which he may be almost said to be the creator.

From time to time during the present century the Government has voted large sums towards the enlargement of the ever-increasing museum.† Since 1793 fresh chairs have been established, of comparative physiology, applied physics, anthropology, paleontology and vegetable physics. The lectures, it may be remarked, like those of the Collège de France, are all entirely free to the public, not even the formality of cards or tickets being enforced; and many are the pleasant recollections that any one who has resided in Paris,—especially if he be a stranger,—must retain of the facile elegance of diction, the clear exposition, of the professors of the museum.

If the zoological collections have not, so far, been lodged as sumptuously as are now ours, yet probably their scientific value is, if not superior, certainly equal. The collection is, indeed, reported to be the richest in the world. There are more than 2,000 mammalia, over 6,000 birds, over 18,000 fish, 25,000 articulated animals, and an incalculable number of molluscs and zoophytes. The library contains some 20,000 volumes, and the collection is rich in original botanical drawings; the botanical galleries contain about 35,000 specimens of plants, not including fruits and woods; the geological gallery, with its 60,000 specimens, is one of the richest collections in the world. The gallery of comparative anatomy, if it falls, perhaps, short in interest of our Hunterian Museum, contains none the less over 25,000 prepared specimens, 6,000 dried, 5,000 in spirits, the rest in wax and plaster.

In the garden itself, where still may be seen, as a relic of the original foundation, the section of medicinal herbs, all carefully labelled and arranged in beds in strictly scientific order, the menagerie offers freely to the stranger, and the children who always crowd the walks, all the pleasures of our own favourite Zoological Gardens. Science, in fact, at the Jardin des Plantes is placed before the public in its most attractive and agreeable aspect. Severe research, however, is none the less pursued by the learned professors, revered *savants* of world-wide fame,—such men as Milne Edwards, De Quatrefages, the veteran nonagenarian chemist Chevreul, and Becquerel, who only within a few weeks past has succumbed to a life of constant toil; professors whose labours hold high in the history of the scientific progress which marks in our century the reputation of the Jardin des Plantes.*

* Excursions out of Paris, under the direction of the professors, are often made during the summer months.

† Only a few years since, the Chamber voted a grant of six millions of francs (240,000*l.*) for the rebuilding of the museum.

* At the opposite end of Paris, and nearer the fashionable neighbourhood, the Jardin d'Acclimitation has, within late years, sadly robbed the old Jardin des Plantes of its vogue. The aims of the younger society, however, are very different from those of the grave museum. It is intended merely to introduce into France, for purposes of profit or pleasure, whatever foreign animals, birds, dogs, and plants may be found to thrive in the climate.

AN ARITHMETICAL DETERMINATION OF THE DEMAND OF TRADE FOR A BRIDGE EAST OF LONDON BRIDGE.

It may, or it may not, be desirable to erect a permanent crossing of the Thames eastward of London Bridge, at the cost of two or three millions of money. The subject is a grave one. It has been long before the public. Much has been said on both sides. Much more, no doubt, remains to be said. But the recent report of Sir J. W. Bazalgette, coupled with the statistical information published "by authority" on the following day, is certainly calculated to support the view taken by Mr. Barlow, rather than that of the advocates of bridge or tunnel.

Sir Joseph puts the case that London extends, as the crow flies, four miles to the east, and six miles to the west, of London Bridge. On the western six miles are, he says, twelve bridges, which have cost, or will cost, 6¼ millions sterling, paid by the rates of the whole metropolis. To spend another four or five millions in providing, also out of the rates, an eastward crossing, would, Sir Joseph thinks, be fair to the East Londoners. If we were looking at a design for a city to be built, there would be some force in that symmetrical view. But as it is, the first point to decide is, whether there really is a want for the accommodation that looks so fair upon paper.

East London, north of the Thames, Sir Joseph puts at 894,000 souls; south of the river, at 655,000. But the fact that these two immense districts have grown up without either establishing a communication across the river, or making much use of the communications already provided, certainly looks as if the course of trade naturally ran east and west, and not north and south, in this end of the town. And, if this be the case, it is hard to see how the building of a high-level bridge, or of a tunnel, would do much to facilitate trade.

A high-level bridge at the Tower, a tunnel at Shadwell, and another at Blackwall, at a total cost of 5,200,000*l.*, is the magnificent project now proposed! As this involves a rate of 1¾d. in the pound for sixty years, the ratepayers ought to have full information as to the utility of a scheme involving such a call on their purses.

Over the twelve bridges now existing (taking no count of the railway bridges, or of Putney and Hammersmith bridges) 371,057 pedestrians passed, on an average, during twenty-four hours in August last, being a little under 31,000 per bridge per day. But Westminster, Lambeth, and Vauxhall Bridges, which gave passage to 72,288 pedestrians, or one-fifth of the total number, accommodate, not a north and south, but an east and west traffic. Chelsea, Albert, Battersea, and Wandsworth, again, which complete the twelve, are rather suburban than metropolitan bridges, giving passage to only 34,794 passengers between them, or about 8,700 per diem each. Our investigation of traffic, as an indication of call for accommodation, is thus confined to the five eastward bridges which span the Thames within the distance of one mile and a half, although Charing Cross Bridge lies as fair for the east and west as for the north and south traffic, and is comparatively insignificant as a crossing.

Over these five bridges, then, on the day taken, passed 264,175 pedestrians, being at the rate of 52,835 per bridge, or almost exactly 100 passengers per yard of the centre line of the river crossed. The distance from the middle of Charing-cross Bridge to a point halfway between London and Southwark bridges is 2,400 yards; and the traffic per yard of river over the four bridges comprised is sixty-four passengers per diem.

London Bridge, on the other hand, has to be credited not only with half the distance from its own position to Southwark Bridge, but with the traffic from four eastward miles for which it is now proposed to build bridges. At this rate, only 15·2 passengers per yard of river to be crossed make daily use of London Bridge. Draw the eastward line where we will, the proportion of traffic to area that necessarily seeks London Bridge is very much less than that which seeks either of the great bridges westward. Thus the zone served by Blackfriars Bridge, if we take it to points equidistant between that structure and Southwark and Waterloo bridges, is just 800 yards. This gives almost exactly 100 passengers per yard per diem, which we before found to be the mean for the five bridges. This, therefore, may be taken as a fair test of the proportion of passengers to bridge room. At the same rate, the traffic over London Bridge will all come from a district reaching 800 yards to the east of it,—that is to say, to the Tower. If the district between Allhallows and the Tower has as much north and south traffic as the Blackfriars zone, and if all this traffic seeks London Bridge, not a single passenger from North or South London, east of the Tower, now seeks to cross the river at that point.

This is, no doubt, a new way of looking at the matter. But it is a mathematical way. And the outcome is, that the actual trade east of London Bridge is not demanding bridge accommodation. What may be done, by providing such accommodation, to create a trade is another question. Is it worth the outlay of 5,200,000*l.* to solve it?

The above was in the printer's hands before the appearance in the *Times* of the letter from Sir J. W. Bazalgette, of October 13th, in which he says that "the existing traffic between Hammersmith and Battersea Bridges is 332,000 foot passengers, and 65,000 vehicles." What these figures mean, and how they were arrived at, Sir Joseph will no doubt explain. According to the "official statement," the daily traffic over Battersea, Wandsworth, Putney, and Hammersmith Bridges, all taken together, amounts to a total of 25,145 pedestrians and 4,302 vehicles, so that there must be some strange error somewhere. We would be the last persons to make much of a clerical error in figures, knowing how easy it is to substitute a wrong column in the copy prepared in haste for the printer. But when an argument is based on a great error of figures the case is different. Sir J. W. Bazalgette's argument is, that the existing traffic over the bridges from Hammersmith to Battersea (nearly four miles by water), indicates a minimum for the future traffic over a bridge or bridges for four miles east of London Bridge. Taking this to be a sound inference, we really obtain only about 1-13th of the traffic of 332,000 foot passengers claimed by Sir Joseph. Further, the four existing bridges are on levels convenient for road traffic. A very great reduction (no one can say how great) on a normal amount of traffic would be due to the physical difficulty of rising to a high-level bridge, or descending to a tunnel. And if, on Sir Joseph Bazalgette's own argument, only about 8,000 pedestrians per day are to be expected to use each of the three new crossings, which are to cost 5,200,000*l.*, the disproportion between cost and estimated utility becomes absolutely ludicrous.

THE END OF THE CHANNEL TUNNEL.

His Royal Highness the Duke of Cambridge has done good service to the country. He has put in a few nervous and well-balanced sentences the case of the Channel tunnel as regarded from a military point of view. We shall not attempt to abstract this authoritative counsel. It ought to be read and re-read by any who have yet a lingering idea that a tunnel, if possible, is desirable. For ourselves, as our readers are aware, we have all along doubted the first of these points, and disputed the second. We have seen no reply attempted to the remark of Mr. Bateman, that all the river valleys in England are marked by faults, and that no explanation of the existence of the Straits of Dover, except by the occurrence of a geological fault, has hitherto been attempted. And the ignored fact that the dip of the Straits on the French coast is twice as sharp as that on the English, seems to us to be only one of those which strongly confirm the view of Mr. Bateman.

But while we are content to admire, and to ask our readers to admire, the treatment of the military part of the question by his Royal Highness the Commander-in-chief, we cannot but note how much the commercial question is illuminated by his remarks. How many millions will the works of defence that all military men admit to be necessary, if a tunnel be made, cost? What will be the annual cost of the fixed garrison of 7,000 men, who will have nothing to do but to watch the newly-created danger? Who, on any showing, is to be benefited by the large outlay? It has been suggested (mischievously enough) to the unemployed workmen that they would find their account in the scheme. Far better would it be for the country to set them to work in reclaiming Irish bogs,—or in digging sand from the sea-shore to be replaced by the next tide! As to paying traffic,—the projectors of the scheme have never replied to our challenge on that point. We have shown that the coal for ventilation alone would cost about a third of the largest net earning that could be anticipated; let alone all sorts of unforeseen expenditure. Cost of transport through the tunnel would be three times that by sea, for working expenditure alone. The vast question of interest on outlay is untouched in that calculation. It might be difficult to point to any scheme, brought forward at any period of our history, the results of the accomplishment of which would be, in the opinion of most of those competent to judge, so disastrous. We may safely challenge the records of human folly to show any project which has received so much attention, not to say so much ill-informed approval, while so utterly unsupported by statistics, or by ordinary commercial reasons. We hope that this report will finally extinguish this mischievous project.

THE POVERTY OF THE WORKING CLASSES.

Under this title some letters have recently been published in the *Times*, which cannot have failed to interest those who are heedful of the social improvement of the English people. Mr. William Hoyle, of Bury, commenced the correspondence, which was continued by Mr. George Potter, the Rev. S. A. Barnett, and others. But, in truth, though important phases of a social problem of high importance are brought into prominence, these letters do not produce any conclusion which was not already more or less obvious. The point which, as we understand Mr. Hoyle, he desires to establish is that, since large numbers of operatives are thrifty and well to do, and a large number are quite the reverse, the latter are in this position because they squander, or, at any rate, do not save some part of their wages. "The question," he says, "then presents itself, how comes it to pass that one section of the operatives of the country are found in such poverty and misery, while another section, earning no better wages, are living in peace and plenty? It is all owing to the way they spend their wages. If those who are in misery begin to live and act rightly, to shun the public-house, and spend their money properly, they soon rise out of their misery and degradation, and, like the others, become happy and comfortable." The writer then shows how money earned by large numbers of operatives has been wasted, and how a thrifty workman may save, and in time place himself above the reach of want, and that the chief channel of waste is intemperance. So far as we understand Mr. Potter, he desires to show that the thrifty workmen as a rule form the bulk of the members of our trade and friendly societies, and that as much money is wasted by those in higher grades of society as by the operatives. There can be no question that both Mr. Hoyle and Mr. Potter are more or less correct in the positions they have taken up. No one can doubt that if the thriftless workman would follow the example of his economical brother, he would be better off and that less wealth would be wasted, nor, on the other hand, that the trade-unions and friendly societies contain a great proportion of the thrifty operatives, so far as they are members of large trades in large towns. On the other hand, the great number of workmen in small provincial towns, and who work at what may be called miscellaneous trades, must not be left out of account. Moreover, we have no manner of doubt that the workman who puts his money into a savings-bank or invests it for himself is more worthy of imitation than the man who puts it by as a subscriber to some trade union, whereby he puts himself under various restrictions. The Rev. S. A. Barnett, the well-known Whitechapel clergyman, points out that the workman who earns 30s. per week, and who spends of this sum 20s., and puts by 10s., cannot live in comfort and happiness. Further, that the mere saving of money is not sufficient; that the man who barely exists and saves money, leads "as mean and low life in one way as a drunkard or a spendthrift in another." In this statement there is a certain amount of truth; the workman who leads a joyless existence, though he may have money in the bank, cannot be considered as living a desirable existence, but the mere fact of self-denial and of thought for the morrow forming part of his life, necessarily raises him to a higher moral and mental place than that of the workman who spends his surplus earnings in self-indulgence. Moreover, Mr. Barnett seems to overlook what may be termed domestic joys, which must exist in any well-ordered and thrifty home, even though in that home there is not "an easy chair," and though the operative "cannot have books nor send his family for change of air." That he cannot have books we deny, because it is absurd to suppose that, with the abundance of cheap literature which exists, a workman who earns thirty shillings per week, and as the typical workman of Mr. Hoyle's letter does, puts by, as a rule, ten shillings, cannot now and then afford sixpence or a shilling for a book, a newspaper, or a periodical. At any rate, where free libraries exist the workman always can obtain books when he wishes them, and it is because free libraries, museums, and exhibitions, open both on week-days and Sundays, are so unbounded a boon to thrifty working men and help to attain that object which Mr. Barnett rightly considers so necessary, namely, the making of "life fuller, happier, and more worthy a man's manhood," that we have always advocated them so strenuously.

To return to the question of the poverty of a large section of the workmen of this country, where, as Mr. Hoyle shows, the population of the United Kingdom have in ten years spent 1,364,000,000*l.* in drink, there cannot be a doubt that the happiness and comfort of this section will be largely increased by an increase of sobriety in the country, and by a smaller expenditure in intoxicating drinks. That, we take it, is evident, and that also is about the only distinct point which can be laid down. For an increase in economy and in happiness of those poor and miserable workmen who spend their money in follies or do not put it by for a rainy day and for old age, can only be obtained by the general improvement of all classes in thoughtfulness and self-restraint. We then are face to face with all sorts of social problems, the marriage of healthy couples, improvidence in marriage, waste of money in female dress, the effects of the poor-law, and numbers of others, which there would be no difficulty in enumerating. But there can be no doubt that correspondence such as that to which we have alluded, and which affords ground for more comments than we have here made, although it does not or cannot lead to any immediate and practical result, shows not a little where the error lies, how possible it is for operatives to be thrifty and to cease, in their days of age or sickness, to be burdens on those of the community who have money in their hands. It is abundantly clear that vast numbers of our operatives are spendthrifts; it is equally clear that equally vast numbers are men who show forethought by not living up to their incomes, and we can but hope that the "lucidity," if we may use Mr. Matthew Arnold's latest phrase, which is now so much more apparent in regard to sobriety, to poor-law relief, to improved dwellings, and to art for the masses, as well as to scores of social problems, will, as the years go on, gradually increase that already large section of the operative class who are sober and temperate in all their ways.

HANSEN'S POLYCHROME PROCESS.

In the opinion of some German critics the art of polychrome decoration, as employed by the ancient Greeks and Romans in their wall paintings and ornamentation of public buildings,—an art which had hitherto been lost,—has been rediscovered by the Austrian artist Hansen. M. M. A. Turner, of Munich, takes advantage of certain works exhibited by French artists in the present Vienna International Exhibition to contrast them with the polychromes of Herr Hansen in the New Parliament Houses at Vienna. He speaks first of the polychromes of M. Dubocq, representing his ideas as to how the Parthenon should be restored. According to this French artist, the surfaces of the walls between the columns both on the inside and outside of the Parthenon are blue, and covered with warlike scenes; the columns are of a yellowish red tone, while the bases of the temple and the pediment are painted red with ornaments. The triglyphs are blue, and the reliefs of the metopes white upon a red background. Such is the general combination of colours in M. Dubocq's project of a restoration. The interior is treated in a manner analogous to the exterior, only in the entablature parts the colour is more intense. In the centre there is an Athene with yellowish drapery, and with the vermilion Medusa head on her bosom. "The *ensemble*," says M. Turner, "is a polychrome, than which it would certainly be impossible to imagine anything less prepossessing." The colours here stand out hard and inharmonious from the body of the work, instead of infusing life into it, nor is there anything at all in the way of a harmonious blending or equipoise between the colour and the light and shade. Another example of the same view of antique polychrome painting is seen in a second work which has been sent to the Vienna International Exhibition from the Spanish Academy at Rome. It is an imaginary restoration of the Temple of Antoninus and Faustina. The only difference of importance between this exhibit and that of M. Dubocq is that the ground colour between the columns is red instead of blue. The mere fact that the ornaments appear painted on a coloured background with colours that fail to blend harmoniously, or compensate one another, is the source of much unclearness in both cases, and accounts for the lack of those soft and gradual stages of transition which are absolutely requisite as a set-off to the contrasts of light and shade. In this connexion a fine opportunity is offered in the Parliament House in Vienna for making an instructive comparison.

In the polychromes executed by Herr Hansen, that artist has carefully avoided bringing together too many colours. Generally with him the ornamentations and ornamental constituents in gold stand out from a coloured background, and do so sharply enough to bring out the division, and yet so as to complete the whole in a perfectly harmonious manner without those harsh and ugly contrasts seen in the French projects above mentioned and in other instances that might be quoted.

It is, indeed, a surprising spectacle which presents itself to us in those decorative paintings which are already finished in the interior of the Austrian Parliament House, although as yet not a single room is perfectly completed. The effect is finest in the chief apartments of the House, which are all connected together,—we mean the two halls of session, the assembly-room, and the peristyle; their plastic elements are composed right up to the ceiling of pure marble, while in the Peristyle even the wall surfaces are of antique cipoline, and here it is that we have an example of the coloured treatment of an ancient architectural creation such as surpasses in its completeness anything yet seen. Compared with the effect here achieved by Hansen, all earlier attempts of the same kind such as those in the Propylæa at Munich, the

restoration of the Tuscan temple by Semper, the polychrome decorations of the Æginetan pediment in the new museum at Berlin, all fall very far behind; and, indeed, we may make bold to assert that it is only now that we have practically recovered the lost art of the ancient polychrome paintings and decorations.

But this is not the only service Herr Hansen has rendered by the execution of these paintings. He has likewise discovered anew, it is asserted, the hitherto lost process of the ancient art employed in the production of wall-paintings, the process, namely, which imparted to them their extraordinary durability. Thus in the Festival Saloon of the Parliament House a series of panels are at present being filled with decorative work, which, when finished, will, it is hoped, be perfectly secure against external influences, and which may hereafter be washed without any fear of their suffering injury. The process followed in producing these decorations is extremely simple, and it was discovered by Herr Hansen chiefly by studying the wall-paintings of Pompeii. The surface of the wall is first covered with ordinary stucco, and then a thin layer of marble-dust of the colours required for the background is laid on like ordinary *stucco lustro*, and is rubbed smooth. Upon this the ornaments and figures are then drawn in the usual fresco colours, rubbed in with a little soap. Finally the whole is rubbed over with a smooth piece of hot iron, and the work is complete. By this process the paintings become intimately united with, and are, in fact, all of a piece with the substratum, forming an integral part of the plastic mass.

In his efforts to introduce the ancient polychrome painting into practice on this new basis Herr Hansen has met and is meeting with much opposition, but there appears no reason to doubt that he will triumphantly maintain his ground.

Whoever on principle rejects the painting of plastic works, or parts of them, has just now a favourable opportunity of observing the difference between the effect of architecture with and without polychrome decorations. It may be seen in the Festal Saloon of the Parliament House, where the door-cases and jambs of the two side doors still remain unpainted, while the main entrance-door of the hall is already finished in polychrome. In the latter how delicate and beautiful appear the different portions of the marble!—while in the former cases the effect is quite coarse, in spite of their noble plastic proportions. That the gilding of the acroteria and upper parts of the mantel-pieces at present has a somewhat glaring appearance need not trouble us; for, as other portions of the work clearly show, this effect will be toned down of itself in the course of a short time.

The present advanced state of the various portions of Hansen's work in the Austrian Parliament House enables the observer to form a definite opinion as to the value of his process, and the result of the examination is pronounced by Herr Turner to be, beyond question, most favourable to the system of polychrome decoration as revived by the artist in question.

NEW SYSTEM OF MURAL PAINTING.

The Royal Bavarian Academy of Arts at Munich appointed a Commission in March last for the purpose of investigating the merits of the system of mural-painting which has been perfected by Herr Keim, of that city. The report of this Commission has recently been issued, and it records the fact that the problem of rendering wall-paintings indestructible by climatic action has been solved by the new method. It is also stated, without hesitation, that when the merits of the system are fully known, an important change is likely to take place in mural-painting, both of a monumental and of a decorative character.

The system is, to a certain extent, founded upon the stereo-chromatic method of Schlotthauer and his fellow-workers, but professes to remedy the defect of insufficient durability which was complained of with respect to that process. The improvements made are in the fundamental ground and the painting ground, as well as in the preparation of the colours and the concluding fixing of the picture in its completed form.

The fundamental ground is, in some respects, the same as that employed in the stereo-chromatic process, being a mortar composed of slaked lime, sand, and water, which, after drying, is flattened with rough sandstone, and is afterwards impregnated with soluble silicate of potash. Before applying this mortar it is necessary, in new buildings, that the walling should be perfectly dried; while, in older buildings, the part of the wall intended to be treated should be laid bare to the stone, and the commissures scraped out. The painting ground consists, in the new process, of a mixture of 4 parts (by measure) of quartz sand, 3½ parts of marble sand, ½ part of fossil meal, and 1 part of quick-lime, which is stirred up with distilled water. A mass is thus produced, which is considerably strengthened by the admixture of carbonate of lime in the crystalline form of marble sand, and which, from its rough and porous nature, readily absorbs the colours which are subsequently applied. The addition of silicic acid, finely decomposed in the form of fossil meal, promotes the formation of silicate of lime, and thereby increases the hardness of the material and its capacity to resist chemical and mechanical influences of a trying character.

After being thoroughly dried, this painting ground is saturated with silicic fluor acid, which destroys any crystalline particles of carbonate of lime which may be on the surface, and opens the pores of the material for the absorption of the colours to be laid on. According to the stereo-chromatic process the colours are only laid on with water; but by Herr Keim's system (as described in the *Deutsche Bauzeitung*) each colour receives in its preparation a certain admixture of a nature suited to its special properties, which is intended to promote the solidity and durability of the work.

In order to prevent the darkening or lightening in the shade of certain tones of colour, which is sometimes produced by the final application of the soluble glass used for the purpose of fixing, the colours receive before use an admixture of potash or ammonia. By this means they do not alter in shade, and the painter is saved the trouble of calculating what shade the colour he is applying will be after it is subjected to the process of fixing. The colours are delivered by the factory almost ready for use; only requiring to be rendered thinner according to circumstances by the addition of water. The fixing of the completed picture is finally effected by a wash of soluble glass containing an admixture of caustic potash and caustic ammonia. This is not applied cold, but warm, to the wall surface, which has previously been dried to the stone. When the weather is cold or damp, this drying is promoted by a specially constructed iron stove. To complete the process and to prevent the subsequent appearance of the alkali, which becomes free in the form of a white dusky coating, the fixed picture is again treated with carbonate of ammonia. For subsequent cleanings, washing with water is sufficient.

As a proof of the weather-resisting properties of wall-paintings executed according to this system, it is stated that Professor Lindenschmit buried such a picture during the whole winter of 1880 in the snow under a gutter, without the slightest injury resulting. The Commission to which allusion has been made has further established the fact that the placing in cold or hot water, and the application with brushes of water, alkalies, diluted and even concentrated acids produced no injurious effects worth naming, and that the pictures thus experimented upon continued after these tests to display hardness and imperviousness to mechanical influences.

Apart from these properties of resistance to the effects of climate, the clear white painting ground shows up the colours, particularly ultramarine shades, in a bright and effective manner. The paints are easily applied and blend well together; the production of a pleasing and harmonious effect being facilitated in many ways by the process in question.

Poor-Law Buildings in the Metropolis. The Wandsworth and Clapham Board of Guardians have unanimously resolved that ten acres of land, situated between Allfarthing-lane and Garrett-lane, Wandsworth, be purchased of Mr. R. Davis, for 10,000*l.*, for the purpose of erecting a new workhouse, or for such other purposes as the guardians, with the consent of the Local Government Board, might determine.——The Lambeth Board of Guardians have agreed to purchase of Mr. Woolley 2 acres, 3 roods, 9¾ perches of land, copyhold, at 1,250*l.* per acre, for the enlargement of the Norwood Schools.

A NEW ELECTRIC RAILWAY.

The Austrian Ministry of Communications has granted to the Südbahn or Southern Railway Company the concession for the construction of an electric railway to run from Mödling to Brühl in the suburbs of Vienna. This will be the first electric line in the Austrian capital. It will be about three kilomètres, or two miles, in length, and will run from the Mödling railway-station on the southern line, through the village of Mödling, and thence through Klausen to Vorderbrühl. It will be a single line. The gauge is one mètre, and the gradients are not to exceed fifteen in the hundred, while the minimum radius must not be smaller than thirty mètres. The maximum speed allowed by the terms of the concession is twenty kilomètres, or about twelve miles and a half an hour. There are to be halting and signal stations at the most frequented crossings, and they are to be connected together by telegraph or telephone apparatus. The carriages of the new line are to contain eighteen seats, besides standing-room for a few more passengers. Each carriage will be fitted with its own electrical conducting apparatus, and the traffic will be worked by a stationary steam motor of at least forty horse-power, and two machines for the production of the electric current. The new line is to be finished and be opened for traffic by the 15th of July, 1883.

INFERIOR PORTLAND CEMENT.

The adulteration of Portland cement continues to attract considerable attention among Continental builders, and the subject is under constant discussion in the clubs and periodicals of the profession across the North Sea. One of the most interesting of the recent contributions to this question is a pamphlet by a German mining engineer, Herr Roth, who deals especially with the adulteration of the cement by means of blast-furnace slag or cinder. Herr Roth entirely agrees with the Society of German Cement Manufacturers in rejecting the mere addition or mechanical admixture of this material in the production of Portland cement. He inquires into the essential ingredients of which the cinder is composed, and shows that it always contains, amongst other constituents, one compound which is highly injurious,—that is to say, sulphuret of calcium. In order, therefore, to obtain a useful cement from blast-cinder, it is necessary in some way to remove or neutralise this substance, and, by adding certain other materials, to obtain an article which corresponds in composition with real Portland cement. The practical point of Herr Roth's researches is, that he recommends the employment of Bauxite along with lime. The former material, owing to its containing free argillacious clay-hydrate, suffices, with the addition of a certain proportion of lime, not only to convert the injurious sulphuret of calcium into a harmless compound, but produces, with the furnace-slag, a resulting mixture agreeing in all essential respects with real Portland cement. The inventor of this system states that, while the quality of the new article is equal to that of the best Portland cement, it can be produced at considerably smaller cost.

STRAW AS A SUBSTITUTE FOR WOOD.

The invention by which straw is used as a substitute for timber is an American one, and if the material fulfils all that is prophesied of it, it will probably interfere considerably with the timber trade. The following account has been published in America of this new substitute for wood, and re-issued by the Society of Arts:—The straw timber is said to be adapted to many kinds of finishing work, panels, counter and table tops, fine doors, and ornamental work, and it said that it can be produced and sold in competition with the finer grades of pine or wide walnut, at about one-half the price of the latter. The standard manufacture is in widths of 32 in., a length of 12 ft., and a thickness corresponding to surfaced boards. These dimensions may be varied to suit such orders as may be given, and embrace any width, length, or thickness. Unlike lumber, however, narrower widths are the most costly. The straw lumber may be ripped with the hand saw, or upon the buzz saw; may be run through the sticker for the manufacture of mouldings, and takes a nail or screw as well as oak. It is, practically, water and fire proof, being manufactured under 500

degrees of heat, and it is stated to have stood boiling some hours without any apparent change of structure. Its tensile strength is greater than that of walnut or oak, and its weight about one-fifth greater than the former, when dry. It is made from any kind of straw, including hemp and flax fibre; in fact, from any material that will make pulp, and a ton of straw will produce 1,000 ft. of boards. The pulp is rolled into thin sheets, a number of which, corresponding with the thickness of the lumber desired, are placed together with a peculiar cement, which is claimed to be waterproof, and are then rolled under a pressure sufficient to amalgamate them into a solid mass, which may be worked with a plane, if desired.

When it is remembered that it takes 100 years to grow a tree to maturity, suiting it for commercial purposes, and a tree producing 32-in. lumber will require fully twice that time; while 20,000 ft. per acre is a large yield under the most favourable circumstances, it will at once be realised that where 2,000 ft. can be taken from an acre of ground for an indefinite number of years, the process which enables such a result to be accomplished, and which will yield a really valuable lumber, should be one of great importance.

GLAZED BRICKS.

The Union of German Architects and Engineers has been endeavouring to collect information on this subject, and a contribution of interest has been afforded by the statement of the Hanover Architects' Society which recently organised a commission respecting the matter. From the numerous examples of Mediæval ecclesiastical architecture in Hanover, it would seem that the use of glazed facing bricks did not become usual until the earlier part of the fourteenth century. The market church in the City of Hanover is considered the oldest important specimen extant of building with glazed facing bricks, which are used in the windows and doorways, on the slopes of the window-sills, &c.

From the middle of the fourteenth century, the use of glazed wall bricks continued in favour not only for ecclesiastical purposes but, also in ordinary house-building. On the other hand, it is stated that glazed roofing-tiles were only used on a limited scale during the Middle Ages. It would seem that the substances used in the process of glazing did not in those times materially differ from those in use at the present day. It is supposed that the oxide of lead employed was prepared at the brick factories, and that it was a purer article than is now sold under that name. It is not certain that the glazing was applied to the bricks in their unburnt state, but such is conjectured to have been the case. It is remarked that in those ages wood fires were alone used, and thus it was possible at one operation to burn the brick and fix the glaze upon it. At the present day, the burning is usually done by coal fires from motives of economy, and wood fires are used for the separate operation of glazing, for which purpose they are specially effective. The glaze on Mediæval bricks was thinner than is the case with modern productions of this class.

In recent times glazed wall-bricks have been used in an increasing proportion. Since 1862 glazed bricks have been used in Hanover in building spires. The brickworks in the vicinity of the city of Hanover now make them in various tones of colour, and they have been as a rule found to be weather-proof. Absolute freedom from crazing has not been as yet arrived at, yet in from 50 to 70 per cent. of the bricks made this defect has been avoided; at least, to such an extent as to be visible to the naked eye.

The durability of glazed bricks does not directly depend upon their colour, but varies according to the composition of the glazing substance. Yet, as the composition of the glaze reacts upon the colour, it has been noticed that the darker kinds are, as a rule, better preserved. In the composition of the glazing substance each producer varies the proportion of the component parts according to the quality of brick to which it is to be applied, and according to the method of burning which he employs. As a rule, the proportion varies between one part of protoxyde of lead with one part of sand; two parts of protoxyde of lead with one part of sand.

For greenish-coloured glaze there is a less proportion of protoxyde of lead used than is the case with any other colour. For colourless glaze, three parts of sand and four parts of protoxyde of lead form a usual mixture. The sand used must be colourless and pure. Some makers add baryta in order to prevent the glaze from melting except at a high temperature.

The quality of the body of the brick is capable of exercising an important influence upon the durability of the glaze. The harder it is burnt the more complete will be the cohesion between it and the glaze, and the less fissures will there be in the latter. The danger of injury to the body of the brick from the penetration of frost is therefore reduced to a minimum. Small particles of lime in an undivided state are capable of cracking the glaze.

From these facts the following rules are deducted by the Hanover Architects' Society:—1. the brick which is to be glazed must be absolutely weatherproof and free from undivided particles of lime. 2. The mixture of glaze must be laid on very thin, and must be free from crazing, as far as can be seen by the naked eye. Absolute freedom from crazing is, of course, recommended if it can be attained. 3. Any considerations as to the colour of the glaze are of less importance than the good quality of the body of the brick and of the glazing substance.

A practical illustration of the necessity of using the greatest care in the manufacture of glazed facing bricks is afforded by the fact that at Altona the examination of the steeple of St. John's Church, for the purpose of repairing the cross, has disclosed the fact that the glazed bricks used in some portions of the steeple (and which have been in position about twelve years), have become so weather-beaten that they require to be removed. It is proposed to replace them by another make of glazed bricks, produced in Silesia, which has been employed in other portions of the church (more recently erected), and has been found to resist the influence of the weather in a satisfactory manner.

THE LADY CHAPEL REREDOS, CHICHESTER CATHEDRAL.

Our readers may be glad to have a fuller account of the reredos in the Lady Chapel of Chichester Cathedral, a view of which appeared in our number of Sept. 16, p. 372.

The altar and the reredos were given by Mr. J. F. France, in memory of his wife and family. She lies buried in the "Paradise" of the cathedral adjoining the Lady Chapel. The material used is polished alabaster, executed by Messrs. Farmer & Brindley. The subject is executed in Salviati's mosaic by the Murano Glass Company, of St. James's-street, from a cartoon by Mr. J. R. Clayton. There does not seem to have been an ancient reredos, for the original ashlar of coursed stone existed, and, curiously enough, it was proved by the discovery of a small portion of tiling *in situ* that there had been no difference of level between the west and east ends; the ancient altar, however, must have had a separate step, so it was determined to retain the ancient level, and give the altar a foot pace. Portions of the ancient detail of the piscina existed, and this gave the type of mouldings for the reredos, the curious cusp terminations being copies of those of the piscina. The detail of the rich tombs in Westminster Abbey of the same date were carefully studied, and that of Gervase Alard, in Winchelsea Church, built at the same period as the eastern part of the Lady Chapel, and of very similar detail to the piscina. The altar is of solid oak framing, bolted together by iron bolts passing through the columns. The marble "mensa" is an ancient one, which was discovered built up in the walls. The inscription does not show fully in a front view, as it returns on each side. The whole runs thus:—"✠ Deo spei nostræ—in dulcem memoriam Elizæ France famulæ Domini plensæ fide ac beneficæ—conjugis charissimæ meæ."

Many of the large windows of the chapel have been filled with stained glass by Clayton & Bell at Mr. France's cost. The general restoration of the chapel was carried out some years ago by the Dean and Chapter, under the late Sir Gilbert Scott and the late Mr. W. Slater; it was formerly a library, and the floor was lifted up to form a vault for the Dukes of Richmond, the floor was lowered, and the whole of the masonry and marble work, externally and internally, was restored. There, however, yet remains to be done the restoration of the roof and the east gable to the original higher pitch, still to be traced on the east wall of the choir. The original Lady Chapel was Norman and Early English, with a high-pitch roof, but when extended in the fourteenth century the western end was raised and the roof lowered in pitch so as still to keep its apex under the sills of the east window of the choir. It would be a most desirable work to complete, as the exterior much suffers by reason of the modern flat pitch and low gable.

THE PRESIDENT OF THE ROYAL SCOTTISH ACADEMY ON ART.

The annual Dundee Fine Art Exhibition was opened the other day by Sir William Fettes Douglas, P.R.S.A., who in the course of an address delivered on the occasion, said,—The attention now given to art in this country is one of the most curious of the innumerable, reasonable, unreasonable, and fantastic fashions of the day. Even fifty years ago art was recognised only by the few, and they recognised it as a very trifling, although sometimes pleasant, accomplishment, and never dreamed it could become as it is daily becoming, a great power in the world; indeed, it seems not unlikely to usurp a larger share of the world's attention than it can or ought legitimately to claim. Books of to-day very often consist of pictures, with a word or two of letterpress,—not, as in a proper division of labour, of letterpress, with accompanying pictorial illustrations. And we seem fast returning,—though under very diffesent influences to the style of the earliest printed books,—viz., "The Bibles for the poor," which consisted of pictures only, or pictures with a word or two incorporated in the woodcuts. Indeed, unless it be in the gloomy regions of abstract science, every department of human activity calls in the assistance of art. Natural philosophy claims its help, history claims its illustration, romance seeks to add art's piquancy to its own; and I need not speak of its activity as an advertising medium. The word of the physicist is explained by it, and the mind of the child is ripened by it. Much of all this, as I said before, is the result of fashion; and it is to be hoped that before the fashion can change art will have become incorporated, so to speak, in the very nature of the next and succeeding generations, and will then hold its position permanently as a necessity of life. Nowhere has this change in art's position shown itself more remarkably than in the picture-books of the nursery. They represent a real advance; a generation ago they were worse than weak and uglier than bad,—now they are prodigies of luxuriant ability; and in this matter we must recognise a vital factor in the progress of art generally, because the unconscious education children receive from these silent companions,—their picture-books,—must have a permanent effect upon their future tastes and habits; and the improved and really high quality of many of the childen's books of to-day will render even the most obtuse among them impatient of the presence of all that is rude and unrefined. As in morals, constant contact with pure and upright conduct is the best, indeed the only true, education, so in art familiarity with beautiful,—not necessarily expensive,—objects will inform better than a thousand schools. They speak a language which does not need to be learned, and is more eloquent than the thousand conventions and rules of a thousand teachers. Next to the influence of children's picture-books in the formation of art feeling,—but, as I sincerely believe, only next to, and not before them,—is the influence of art exhibitions. They appeal, no doubt, to the riper and more cultivated mind, and ought to carry on and further the education earlier begun; but though theoretically true, this is not always practically possible. We have the best art-power of the whole world producing children's books and illustrations to popular literature; while all local exhibitions must depend more or less on local ability. Keeping this in view, the Committee of the Dundee Fine Art Association deserve no ordinary praise for the collection they have this year gathered together in these rooms. It is probably the finest exhibition hitherto seen north of the Forth, and it is to a great extent free from any local or provincial character. Some of the most eminent of our English contemporaries are well represented upon the walls, and a large proportion of the members of

our Scotch school seem to have put their best foot foremost, and show themselves literally in their best colours. The public and artists themselves are quite unable to appreciate the labour and the various annoyances and difficulties,—I have even heard of dangers,—encountered in getting together such an exhibition as this, and no one who has not served on a Committee of Arrangement, or, as it is termed professionally, a Hanging Committee, can understand the embarrassment, and not seldom the pain, experienced in making final decisions. A member of the Hanging Committee ought to begin his labours with the principle that he must have no friends, and when he has finished he will probably find himself blessed with many enemies. It is almost impossible to do justly and love mercy in exhibition arrangements; these two qualities are generally found to be absolutely incompatible with each other; moral reasons, conventional reasons, and mechanical reasons, all make a tangled skein of his best intentions, and he who went in as a man of principle and benevolence comes out of the ordeal a demoralised cynic. I see it stated in your leading journal that your last exhibition was relatively in one respect more successful than any other in the country, or indeed in the empire. And the Exhibition Committee of a smaller and more local exhibition in a town not a thousand miles from this place, makes a somewhat similar assertion. The statement is founded simply and solely upon the large amount of sales effected during the season; and there is a congratulatory chuckle accompanying this very satisfactory statement which would be allowable enough did it not stand alone in an apparently all-sufficient isolation. I sincerely hope, and do not doubt, the present exhibition will afford its promoters an equal amount of satisfaction from the same point of view, and there is no doubt men must live before they enjoy life; but committees and councils may not forget that such gatherings of works of refinement and beauty are not mere bazaars, and are, or ought to be, primarily for the advantage of the public, and the advancement of local and ultimately of national taste. In this country, and in the vast majority of the very best of us, a love of art is an artificial accomplishment, and not a spontaneous feeling. Probably the spontaneity will supervene after ages of culture, for habits of mind are as certainly transmissible as habits of body, aptitude for culture not less so than tendency to crime; and with our mind's eye we may look forward to our successors possessing intuitively that sense of the beautiful and the true which may make life in itself and its surroundings one long enjoyment.

THE ROUND ARCH IN THE "POINTED STYLE."

How difficult it seems to be at the present day to give anything an appropriate name. New towns, new streets, and new houses all have to be named, and some one has to invent or discover appellations for them, but whether the godfathers and godmothers are at fault or whether the infants are themselves to blame, there often seems to be little connexion between what the thing really is and what it is called; thus we find a street of closely-built houses will be called "Dash Park" or "Something Grove," and some specially dismal alley or court will be called "Pleasant-place" or "Paradise-row." This difficulty of naming anything seems so great that in a new district of London called Queen's Park, the avenues are called after the letters of the alphabet and the streets after the numerals. The invention is an American one. Now, when so much difficulty is experienced in naming a street, that we are obliged to have recourse to the first letters of the alphabet or to the numerals, it is not to be wondered at that we are quite incapable of giving a name to a style of architecture, and this must, we suppose, account for the introduction of such an unsatisfactory name as the "Pointed Style" applied to the Mediæval architecture of Europe. We cannot, for several reasons, regard the name as a good one.

When we speak of the "Pointed Style," it must refer and can refer only to buildings erected with arches which come to a point, and therefore, for the name to be worth anything, it must exclude all buildings in which this feature is wanting. But if it can be proved that there are a very great number of buildings and other works in what is called the "Pointed Style," which do not possess this feature, then it is manifest that the name is inappropriate. Then, again, the word "Pointed" is a mistake in the way it is applied, because it is only used to signify the style in which European buildings are erected, and is not extended to works in Asia and Africa which possess the peculiarity of the pointed arch in as marked a degree as do European buildings. Some writers are even of opinion that the pointed arch came originally from Asia, and others claim Africa as the place of its origin. If, however, the pointed arch originated in Asia, it is a very remarkable fact that the eastern parts of Europe were the last to adopt it, and that we find the old Romanesque or other purely round-arched styles existing in Poland, Hungary, Servia, &c., long after they had been given up in the West of Europe. Russia may be said never to have adopted the pointed arch at all. Africa seems to be able to lay a better claim to the introduction of the pointed arch, and if the date of the Mosque of Touloon, at Cairo, is as early as that ascribed to it, it is probably the oldest existing building with pointed arches extensively used. The form of the pointed arch was of course, quite well known to the ancients, as is to be seen in the "Treasure House" at Mycenæ, &c. Hoskins, in his journey to Meroé, in Upper Nubia, mentions chambers and cisterns there with roofs formed by pointed arches, which he regards as the earliest example of that form of arch in existence; but as these buildings have no dates inscribed upon them, and as the history of all the buildings in Upper Nubia is more or less obscure, this statement of Hoskins is a mere conjecture. Wherever the pointed arch did originally come from, there can be no doubt that it was known many centuries before it became a feature in buildings. The ancients do not appear to have appreciated its merits, or we over-value them; and it is a great question whether it has exercised anything like the influence upon architecture which is usually attributed to it; it is also a question whether its influence was altogether for good! Do not let any Gothic man suppose that we are "*abusing Gothic architecture*" or the pointed arch: we are simply stating a view which has occurred to us, and one which we shall not in the least object to find refuted.

Now, we have three questions under consideration.

1. Is the term, the "Pointed Style," an appropriate expression when used to signify the Mediæval architecture of Europe?

2. What influence did the "pointed arch" exercise upon art, especially architecture?

3. Was that influence advantageous or the reverse?

With regard to the first question. We have already stated two reasons why we consider the expressions, "Pointed Architecture" and the "Pointed Style" inapplicable. The first is that it *cannot* include works erected in Europe, which, though thoroughly in the spirit of the style, exhibit no indications of the pointed arch; and the second is, that it *does not* include works in Asia and Africa which do possess pointed arches; and we will suggest a third reason against the use of the term, and that is the fact that the pointed arch was *never at any time* used all over Europe to the exclusion of the semicircular and other forms of arch, and, in fact, that all through the Middle Ages the round arch was extensively used, much more so than is commonly supposed. We will almost go the length of saying that in some parts of Europe Gothic was almost as much a *round*-arched style as a pointed-arched style! Also that it gains few of its peculiarities by the introduction of the pointed arch, and that it would have developed itself much in the way that it has done if the pointed arch had never been introduced. To take our own country first: we believe that the earliest examples of the pointed arch to be met with are in the nave of Buildwas Abbey, which was commenced in 1138 or 1139; the pointed arches are only to be seen in the lower portions of the building, whereas the clearstory has round-headed windows. We should have expected to find Buildwas Abbey possessing more Gothic development than works of the same period which do not possess pointed arches, yet quite the reverse is the fact. Malmesbury and Kirkstall Abbeys and Clifden-Hampden Church, Oxfordshire, present also the earliest examples of the use of the pointed arch, and yet in none of these churches do we find any of the marked and distinctive features of what is called the Pointed style. We have the heavy cylindrical columns, the absence of mouldings, the old cushion cap, and the general heaviness which distinguishes the Norman from the Early English style.

None of these buildings have so much the effect of Gothic architecture as the naves of Norwich Cathedral, commenced in 1096; or Peterborough, erected in 1117; or Ely, Henry I.'s time. In these three naves we find strongly accentuated vertical lines, produced by the subdivision of the piers, mouldings, and an effect of aspiring loftiness, with the absence of strongly-marked horizontal lines, which was evidently a preparation for the glories of the great Gothic interiors of the thirteenth and fourteenth centuries; but all these peculiarities and characteristics are wanting in the naves of Buildwas, Fountains, and Kirkstall, which seems to point out that the use of the pointed arch in these latter buildings does not show any advance in the road towards Gothic development in those early churches where it is found.

The struggle for mastery between the pointed and the semicircular arch which was going on all over Europe at the close of the twelfth and the commencement of the thirteenth century, and the way in which the architects of that period seem to have vacillated between the two is most instructive, and there is no doubt that in their minds the question must often have presented itself that whether the style then in formation would eventually adopt the new pointed form of arch or the ancient round form. During this period of doubt and indecision some of the most magnificent churches in Europe were erected; it is to it that we owe the glories of Chartres, Sens, Canterbury (the choir), the nave of Rouen, Glastonbury Abbey, the presbytery, Chichester, the west transept of Ely, Vezelay, in France, and other exquisite churches too numerous to mention. In Germany, Italy, Spain, and the Low Countries, the struggle did not take place until half a century later, and the round arch had as yet undisputed possession of the field. To show how undecided the question was at the end of the twelfth century, we over and over again find churches commenced with Gothic arches, and the round arch used in their later portions. As an example, the crypt of St. Joseph's Chapel, Glastonbury, has pointed arches curiously enough (four-centred pointed arches), whereas the chapel above has semicircular arches throughout; and the same is the case in France, at Chartres, Vezelay, Puy-en-Velay, Noyon, &c.

Although by the year 1200 the matter was settled in favour of the pointed arch as the rule, yet it has too often been supposed that the semicircular arch was entirely given up, although it was certainly less used in this country after the year 1200 than in France, yet examples of it are far more common than is generally imagined, and the examples are nearly always singularly pleasing, and serve to show that it was quite as capable of combination with all the distinctive features of Gothic architecture as the pointed arch, for instance, in the beautiful double doorway of the north transept of Beverley Minster; we find it in combination with richly undercut mouldings, clustered columns, and tracery. The entrance to the Chapter-house at Furness Abbey consists of three semicircular arches, adorned with the richest mouldings and dog-tooth ornament, and springing from jambs composed of a profusion of shafts. In the Retro Choir, or presbytery, at Chichester (commenced in 1230), the main pier arches are round, and adorned with rich Early English mouldings. They rest upon piers composed of a slender centre column with four detached shafts. The capitals are remarkably elegant examples of stiff-leaved foliage, and the bases well moulded. The effect of these semicircular arches is singularly beautiful. The western doorway at Llandaff Cathedral, the connecting arch over the lancet windows at Great Yarmouth Church, some of the windows of the cloisters at Fountains Abbey, are round-headed, although the work is quite developed Early English; and the same thing is to be seen at Byland. The doorway of the refectory at Rievaulx has a trefoil arch below the round one, and is purely of Early English character. At Chadlington Church, Oxfordshire, the south doorway is round-headed, with very beautiful Early English detail and rich undercut mouldings. At Broadwell Church, Oxfordshire, the

north doorway is also round-headed, with Early English mouldings.

The western doorway of Lambeth Palace Chapel is another fine example of a doorway with a semicircular arch; it is very richly moulded, and is sub-divided into two divisions by a quatrefoil shaft, with moulded caps and round abaci, supporting trefoil-headed arches: the space between these and the inclosing arch is filled in by a quatrefoil, all well moulded.

At Llanthony Priory the windows of the central tower are round-headed. At Sherbourn Hospital, Durham, the windows are round and the principal doorway, although all the details are purely Early English. At Hartlepool Church, the arches which cross the aisles are round, resting upon fine clustered columns. In the choir of Boxgrove Priory Church, Sussex, and St. Giles, Oxford, we find richly-moulded round arches. In the transepts at York Cathedral, —1230-1260, — we find the semicircular arch used in a very beautiful manner in the triforium. The main arch to the triforium is richly moulded, and adorned with a double row of dogtooth; it incloses a four-light composition with three circles filled with plate tracery. This triforium is the most developed piece of Gothic architecture in the whole transept, and shows at once that the round arch was found to combine with tracery and rich mouldings quite as readily as the "pointed." In certain cases it lends itself better to the forms of tracery than does the other: this is especially the case when large circles are introduced into the head of the window. It must be acknowledged that the triangular space left above any large circle enclosed by a Gothic arch is a singularly ugly feature, which is avoided when the enclosing arch is round. This was evidently strongly felt by the French, who generally made use of the round arch over the great rose-windows of their west fronts. It may, in fact, be questioned whether the difficulty of filling up the space between the circle and the point of the pointed enclosing arch did not eventually lead to the abandonment of geometrical tracery and the introduction into tracery of the "vesica" which exactly meets the difficulty; this will be seen by comparing the eastern windows of Lincoln and Carlisle cathedrals. Beautiful as the east window at Lincoln Cathedral undoubtedly is, it has this one defect, that the circle does not seem to fit the space between the enclosing arch and the subsidiary arches. At Westminster Abbey, and above all at Rheims, this defect is very apparent. At Exeter, in the west window this space is filled by a small circle, and in other instances by an inverted trefoil, none of the make-shifts really get over the difficulty, and in fact, it was not till the curvilinear style of tracery was introduced that a satisfactory solution was arrived at. The great south window at Chichester and the east windows of Selby and Carlisle are most triumphant examples of the way in which a Gothic arch can be filled with tracery. It must be acknowledged that when curvilinear tracery succeeded to geometrical, we find few examples of the use of the semicircular arch in English buildings; in fact, in this country its use during that period may be said to have been almost confined to decorative work such as wall-painting, stained glass, metal-work, &c.; here and there, however, examples are to be met with, such as the arches above the windows at Penshurst, the east window of the south aisle, Ely Cathedral, the chief entrance to Yarnworth Hall, Westmorland, the archway to Fisher-gate Bar, York, the cusped arch supporting the parapet, Lumley Castle, Durham (this is late in the style); a small window at Broadwell Church with round head, looks like Decorated work. The Bishop's bridge at Norwich and some other bridges erected during this period have semicircular and segmental, or sometimes even elliptic arches. Those of Elvet Bridge, Durham, are probably of this date. Round, segmental-headed windows are also to be found; examples are to be seen at Carsington and Baldwin, Brightwell Churches, Oxfordshire, the Abbey gateway at Worksop, and Byfield Church, Northamptonshire. Semicircular roofs of the Decorated period are to be occasionally met with. That over the nave of Romsey Abbey appears to be of this date.

With the Perpendicular style the use of the round arch was, to a great extent, revived, and examples of its use are very numerous; the outer gateway at New College, Oxford, has semicircular arches and a barrel-vault built askew. The Dean's chapel at Canterbury Cathedral has semicircular vaulting and large east window of the most elaborate design. The wooden vaulting under the lantern at Merton College is composed of round-headed arches. The doorway to St. Paul's Chapel, and in the old altar-screen at Westminster Abbey, have also round arches. The practice during this period of filling in Norman windows and arches with tracery formed of itself a sort of round-arched Gothic. The effect is sometimes exceedingly pleasing. The Lady Chapel in the crypt at Canterbury Cathedral, and the eastern arches of the transepts at Norwich, are very fine examples. The monument of Cardinal Morton has its canopy composed of a very finely-treated semicircular arch, fitting in to the old Norman vaulting. Segmental and three-centred arches are very common in their style; the monument of Bishop Blowet at York Cathedral affords a magnificent example of the latter, and the window of the porch at Peterborough is a very good one of the former.

The lights of Perpendicular windows are frequently round-headed, while the arch of the window itself is pointed. A good example of this will be found in the screen of Abbot Islip's Chapel at Westminster Abbey. This is still more frequently the case when the window is square-headed. At Yarnworth and several of the Oxford colleges examples are to be seen. In very late Perpendicular buildings, the Pointed arch is the exception, not the rule.

During the fourteenth and fifteenth centuries the round arch was very sparingly used in France, though more frequently than in England. The arch of the great north window at Rouen Cathedral is semicircular, and very richly adorned with canopied niches running the whole way round it. Connecting the pinnacles which support the flying buttresses at Narbonne Cathedral, are a grand series of semicircular arches, finely moulded and of rather large span. At the cathedral at Troyes the parapet of the choir is formed by a series of round arches.

The round arch seems to have continued in use in Brittany throughout the whole of the Middle Ages. Examples of the fourteenth and fifteenth centuries exist at Folgoat, Guingamp, St. Jean du Doigt, Morlaix, &c.

The same remark may be made with respect to Scotland. Round-headed fourteenth-century doorways or windows are to be found at St. Giles's, Edinburgh, Aberdeen Cathedral, Roslyn Chapel, Linlithgow, Kirkwall, &c. Germany also retained the semicircular arch throughout the whole of the Middle Ages, and the examples of it are numerous and very interesting. One of our illustrations (Fig. I.) represents a most delicate and beautiful thirteenth-century doorway at Treves. This doorway is at the east end of the Liebfrauenkirch, and is one of the most perfect and beautiful examples of Gothic architecture in Germany. Its mouldings are richer than one is accustomed to find in Germany, and the carving is singularly graceful. This doorway leads from a cloister, which is a most interesting example of round-arched fourteenth-century Gothic. The windows have thoroughly developed "bar" tracery, but all the lights have round heads, and the inclosing arch is also round. The mouldings are all very rich, and the work excellent (Fig. II.). At Ecternach there is a small pilgrimage church of late fourteenth or early fifteenth century work which not only has all its arches semicircular, but the lights of the windows are also round-headed. The interesting gateway or gallery at the east end of Ratisbon Cathedral is composed entirely of round-headed arches, and dates from the fifteenth century (Fig. IV.). The Rathhaus at Freiburg, in Breisgau, has entirely round arches, or those composed of a series of inverted segments of circles; it is a singularly pleasing and picturesque building erected of red stone. The arches which support the upper story have hollow mouldings, which die down upon round columns without capitals (Fig. IX.). The round arch is also frequently used in Germany to support organ-galleries; a very fine example is to be seen at Vienna (called the Giant's Gate), St. Mary's, Wurzburg, Ochsenfurth, and the gallery above the shrine of St. Cymbert, at Augsburg. Brandenburg offers some very interesting examples of round-arched Gothic. The front of St. Catherine's Church is a very rich example; it will be seen from our illustration that this is ornamented with the richest tracery, without the use of the pointed arch (Fig. V.). Work of a somewhat similar character is to be seen at Lubeck. The fine rood-screen at Munster Cathedral, recently pulled down, afforded a charming illustration of the round arch used for ornamental purposes, and very profusely adorned with tracery and cusping, dating from the fifteenth century (Fig. VIII.). The Church of Iphoven, near Wurzburg, has a very interesting staircase of stone, ornamented with round-headed arches. The Thein Church at Prague has a very rich doorway, enclosed by a round arch. The Chapel of Castle Trausnichts, at Landshut, which is partly thirteenth and fourteenth century work, and partly late fifteenth century, has round arches throughout (see Fig. VI.), and the network vaulting is semicircular in section. St. Wolfgang's, Rothenburg, on the Tauber, has semicircular vaulting to the apse and side recesses of the nave. The chapel of the "Ebracherhof," Nuremberg, has also round vaulting. The portal of the singular church at Chemnitz is round-headed.

Later in date, after the year 1500, the round arch becomes still more common, and we find it frequently used in windows. Examples are to be seen in the cloisters at Ratisbon, &c.

In civil and domestic buildings round arches are of very frequent use. Examples are too frequent to quote at Nuremburg, Prague, Landshut, Munster, &c. At the last-named place it is profusely used in the tracery decorations of gables. For bridges, gates, &c., its use is quite as common as that of the pointed arch during the thirteenth, fourteenth, fifteenth, and sixteenth centuries.

Throughout the whole of the Middle Ages the round arch was used in Italy; more frequently, in fact, than the pointed in some works which are quite of Gothic character, not a single pointed arch is to be found. The upper portion of the baptistery at Pisa is a case in point (Fig. III.). The magnificent fronts of the cathedrals of Sienna and Orvieto have few pointed arches about them, although they are among the finest works of Italian Gothic. In the beautiful Cathedral of Cremona the round arch is far more used than the pointed.

It must not be forgotten that, in addition to constructive architectural works, the use of the round arch in purely decorative work must be studied in order to arrive at a just appreciation of its influence during the Middle Ages. In this branch of the subject a great deal of new and most interesting information has been collected together by Mr. Westlake, in his excellent papers upon glass painting. Mr. Westlake's remarks and illustrations show distinctly that the Mediæval glass-painters certainly favoured the round arch, and its use may be found in their works through the whole of the Middle Ages. In wall-painting, also, we find a decided inclination towards the round arch, and that even in the middle of the fourteenth century. Amongst the paintings which adorned the wall of St. Stephen's chapel, Westminster, are some remarkable examples. One of these, the subject of which, unfortunately, it is not easy to decipher, as the figures are so mutilated, shows a very remarkable background, which appears to represent a vast hall or temple of very singular architecture, every arch of which is round. The well-known manuscript drawing of the imprisonment of the Duke of Orleans at the Tower, now amongst the Royal manuscripts in the British Museum, represents all the buildings as having round arches, although we know as *a fact* that London Bridge had acutely-pointed arches. This manuscript dates from the fifteenth century. Amongst early printed books we rarely find pointed arches represented. The *Nuremberg Chronicle*, 1493, though profusely illustrated with views of towns and buildings, does not show a single pointed arch, and the *Schatz-behalter*, 1491, only represents that form twice, whereas in the representation of the large Gothic church, called "Sibenundsibentzigist Figur" (seventy-seventh figure), every arch is shown round.

Our space will not allow our carrying out this inquiry to a greater length by entering upon the subject of cabinet pictures, &c., but we think that we have already shown that the round arch maintained an existence through the whole of the Middle Ages. In fact, there seems to have been a struggle going on between the two forms of arch not only during the twelfth century, but also during the thirteenth, fourteenth, and fifteenth centuries. During the three latter centuries, architects in England and France certainly favoured the pointed arch, but in Germany and Italy it never gained so complete a mastery over its rival as in England and France. The

painters seem always to have favoured the round arch through the whole of the Middle Ages.

In Germany during the thirteenth and commencement of the succeeding century, a regular round-arched Gothic style was formed. It, however, does not seem to have stood against the "Cologne School,"—a matter, to our minds, greatly to be regretted, because, however grand Cologne Cathedral may be, it is simply a copy of French Gothic with all the French peculiarities exaggerated until they become faults. The great height of the French churches, the long windows, and slender columns are so exaggerated in the German imitations at Cologne and elsewhere as to given wiry and metallic character to the buildings, and, for our part, we are bound to acknowledge that we consider the German churches which are not influenced by Cologne far truer examples of German art than those which have borrowed their inspiration from that vast cathedral. It is greatly to be regretted that this German round-arched Gothic style did not prevail, as, from the examples which are to be found of it here and there, it might have developed into a very pure and noble style of architecture. In Italy, it is true, we have a round-arched Gothic, but it is so influenced by Classical recollections and inspirations that it is never quite free from their influence; but in Germany the case was different, and the Germans might, but for Cologne, have established a style which would have possessed all the distinctive features of Gothic architecture combined with the round arch. In England and France the pointed arch was used in such a magnificent manner, and the style produced at the commencement of the thirteenth century was so remarkably magnificent that one almost ceases to regret the loss of the round arch; but in Germany the case is different, for there the buildings which are the most thoroughly removed from the influence of the round arch, and the most thoroughly developed into the Pointed style, are precisely those which are the least admirable. In England the severe discipline of the Cistercian order, and their almost puritanical objection to sculpture, painting, stained-glass, carving, and ornamentation in general, was of considerable advantage to a style just coming into existence because it forced architects to attend exclusively to the purely architectural development of the style, and probably produced that rich system of moulding which is so distinguishing a feature of English Gothic. Rosengarten's theory that the monks were attached to the old Romanesque style, and that the Gothic was favoured by secular architects may have been true of Germany, but we doubt it; it is not certainly true of England, as may at once be proved by comparing the Abbeys of Rievaulx, Byland, the choir of Fountains, with contemporary secular works, or works executed by secular architects. Nor do we quite agree with Rosengarten as to the advantages gained in German architecture by the Freemasons. The fact is, there was too much mere Masonic skill about German Gothic work, and however wonderful such works as Strasburg spire may be, yet there is too great a sacrifice of architectural propriety and simplicity to mere skill in workmanship, and it is a question whether the retention of the round arch would not have restrained the aspiring ambition of German architects and workmen within due limits, and have given a sobriety and solidity to its later development which it certainly needed, we are led to this idea because wherever we have seen the round arch used in German Gothic, it always seems to have a beneficial effect.

As we have, we trust, shown that the round arch was never banished from Gothic architecture, and that it was alone during the fourteenth and fifteenth centuries that the pointed arch was in the ascendant, it must be evident to all that the influence of the latter upon European architecture cannot have been very deeply rooted or very lasting. It has been usually supposed that the round arch came into general use again through the revival of the Classical style or the Renaissance, but it is evident that other influences were also at work to bring it back again, and that the very transitory rule of the pointed arch would have come to an end, even if the Classical style had not been introduced in the sixteenth century. The fact is, that Gothic architecture was never in a thoroughly settled condition after the banishment of the round arch at the middle of the thirteenth century. From this time we find the arch getting more and more depressed until the appearance of the four-centred arch in England, and the three-centred arch on the Continent. There seemed to be a want of something equivalent to the semicircular or round arch, and nothing could be found quite to fill its place. The semicircular arch is so thoroughly commonsense, so simple in its construction, so convenient as to its form, and so structurally sound, that no architecture can afford long to ignore its existence. The inconvenience of the pointed form of arch was from the first felt in domestic work, and we find through the whole of the Middle Ages the domestic windows square in form; the point never came well under a flat ceiling.

In doorways, also, the point was felt to be inconvenient, and this accounts for the fact that we so frequently find the inner arches of doorways round or segmental in English buildings, and that the French used the lintel under their Gothic doorways, so that the arch, magnificently as they adorned it with niches, statues, &c., was really only a piece of ornament, the actual doorway being square-headed. As we have before pointed out, in purely constructive works the round arch was the rule, and the pointed arch the exception. A singular example of this occurs at Beverley Minster, where the arches of the triforium which are visible from below are pointed, but the purely constructive arches at the back of the triforium are semicircular. In bridges and engineering works the round arch is the rule, even in the fourteenth century. As the round arch was so eminently valuable on account of its constructive qualities, it becomes a question whether we have hitherto been right in considering the highest and most perfected style of Gothic to be that in which it is almost entirely thrust out of sight, and whether the fact of this concealment of the round arch does not show a certain decline and falling away from "the true principles of Gothic architecture." If this be so, those who strictly insist upon "true principles" ought to hold what we are in the habit of calling the "Transitional style" as the most perfect development of Gothic architecture, because in that style both forms of arch are used openly. We should not be surprised if a careful study of the influence of the round arch in Gothic were to lead to a renaming and redistribution of the different styles. In this case Norman work of the eleventh and early part of the twelfth century would be looked upon as early Gothic; the Transitional style of the latter half of the twelfth and the first twenty years of the thirteenth century as perfected Gothic; and the subsequent styles simply as different phases of its decline. To exclude the Norman of France and England from the list of Gothic styles, as must be done if the name Pointed style is ever universally adopted, must be a mistake, as so many purely Gothic features were developed in the Norman.

That the pointed arch alone and without mouldings or other features peculiar to Gothic architecture has little or no real Gothic effect, is proved by some of the arches at the Town-hall at Cologne, which, though pointed, have no effect of Gothic architecture whatever, owing to their being unaccompanied by other Gothic features, whereas the round arch from the screen at Munster which we have placed by its side our illustration, does not in the least mar in the general Gothic effect of the composition to which it belongs. What is still more singular is the fact that the Church of St. Eustache, Paris, has a wonderful Gothic look about it, though it possesses not a single Gothic arch or moulding. With regard to the later Norman or Transitional style, it certainly seems to deserve more attention and study than it has received, but one thing was wanted to make it the most perfect of all styles, and that was some kind of principle which might determine where the round arch was to be used and where the pointed. There was a little too much mere fancy in the matter, but if the style had only lasted a few years longer it would in all probability have developed some system which would have set this right; unfortunately (from the point of view which we are now taking) it only lasted some sixty years, and the attempt to unite the two forms of arch was abandoned, at least in France and England. Now comes a question, and one worthy of our attention. Would it be possible to take up this Transitional style and attempt to develop it, either as a round-arched style or as a style using both forms of arch consistently? The great difficulty at the present day in doing anything original in architecture is that all styles have been so fully developed that there is nothing further to be got out of them. They are like Australian tinned meats, which are already so much cooked that any attempt to warm them up again only ends in making them tasteless and insipid. But with regard to the Transitional style, it never became thoroughly developed, and if it were revived there is a possibility that it might lead to something. One thing seems to us to be certain, and that is, that any style of architecture which is to become largely in use must include so valuable a form of arch as the semicircular, as it is the most useful and most convenient of all arches. It is by no means improbable that the exclusion of this form of arch from Gothic architecture was the weak point in that style, and may have been the reason that it lasted for such a short period.

It would be well if our architectural students would make careful sketches of every example of the use of the round arch in Gothic buildings. There can be no doubt that numerous examples are to be found, which are at present little known. They would be then able to judge whether the examples are sufficient to warrant the experiment of trying to work out a style from them. There is a good deal of round-arched Gothic work in Spain and Portugal, but it seems mostly of a very late character. Earlier examples might, however, be found in parts of those countries which are less known. We do not, of course, mean to be understood that these examples would of themselves constitute a new style, but they might help to develop one. It is, of course, possible that we are incapable at the present day of forming a new style of architecture, or that the unfortunate rage for cheap work may be destructive of all true art in building. Let us, however, hope that this may not be the case, and that architecture, which has produced such glorious works in the past, may be destined to an equally glorious future.

REFERENCES.

Fig. I. Doorway, Liebfrauenkirch, Treves.
II. Cloisters, Treves.
III. Baptistery, Pisa.
IV. Gallery, Ratisbon Cathedral.
V. Brick arcade-work, Brandenburg.
VI. Chapel of Castle Trausnichts, Landshut.
VII. Town-hall, Cologne.
VIII. Rood Screen, Münster Cathedral.
IX. Town-hall, Freiburg-in-Breisgau.

THE BREWERY, ALDERSHOTT.

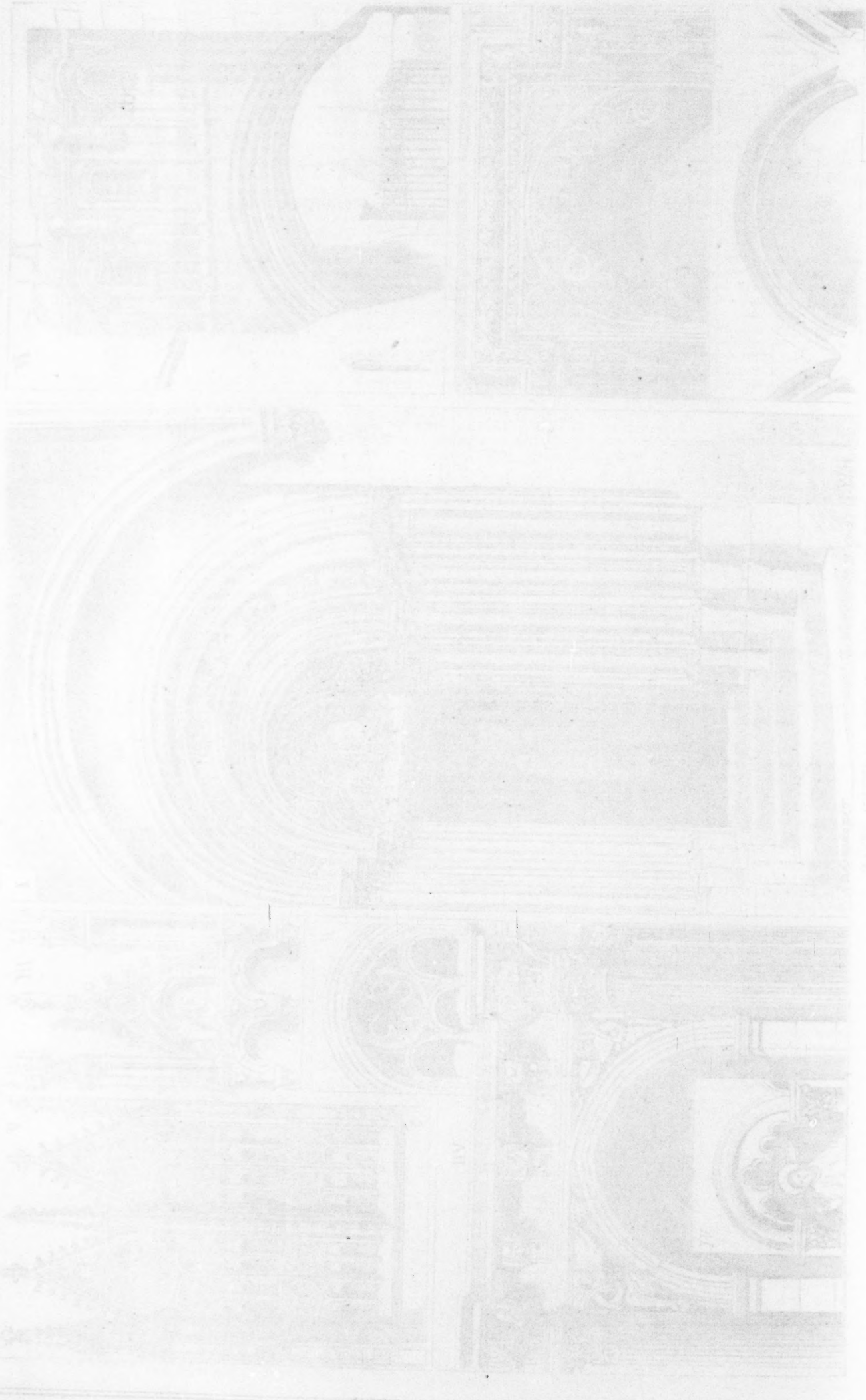
These premises have been recently completed at Aldershott, now the largest and most important military station in the United Kingdom, the War Department having decided to replace the present wooden huts with substantial brick buildings in the North and South Camps.

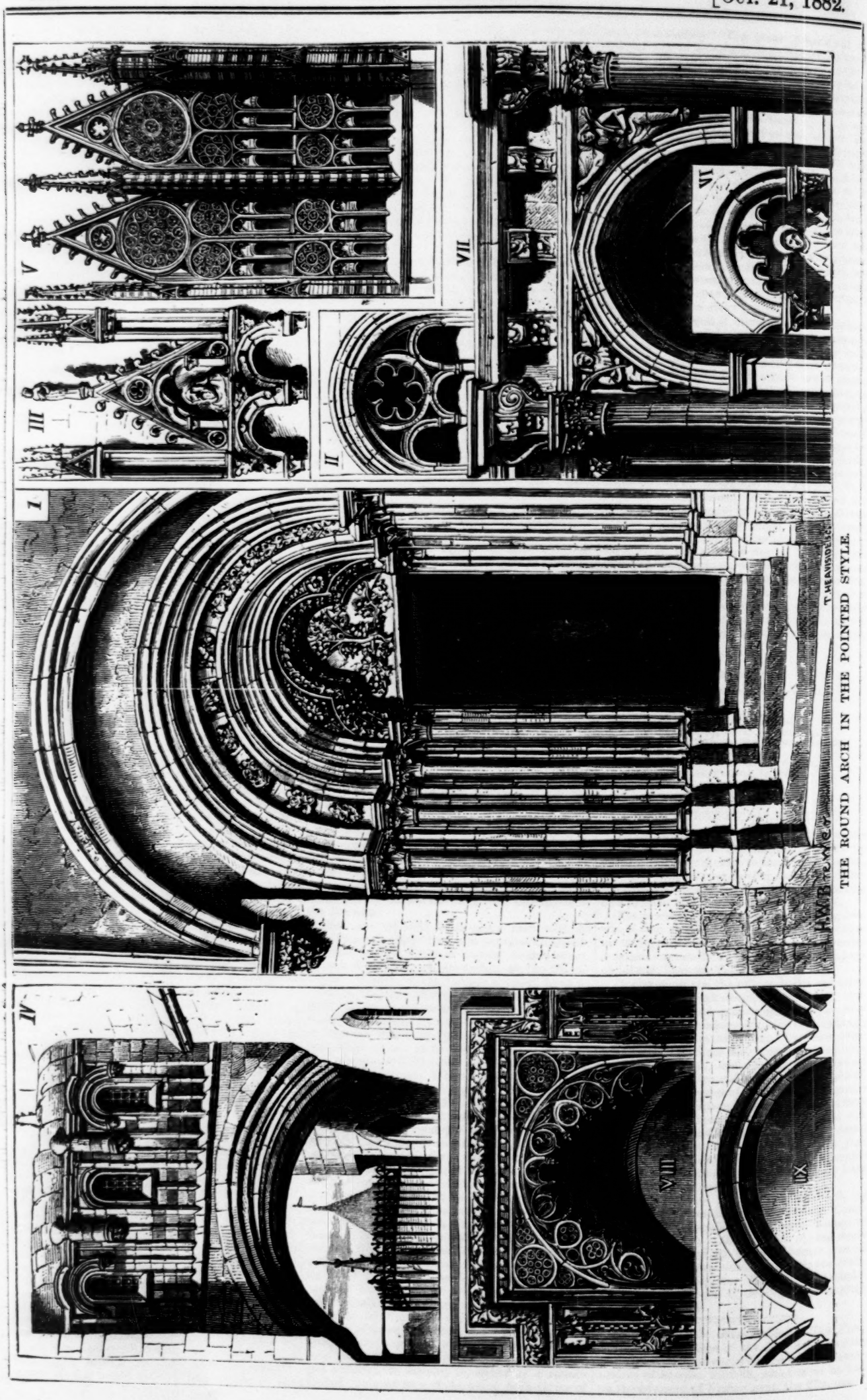
The tower contains the various working floors where the operation of brewing is carried on on the gravitation system, by which method a maximum result is obtained with a minimum of labour, both mechanical and manual.

In one wing are the offices, boiler and engine rooms, with malt-store, &c., above, cask-cleaning shed and cooperage. In the other wing are the racking-rooms, hop-store, cellarage, cart-sheds and stables, &c. The fermenting-squares and coolers are built in glazed white brick externally, and lined with Portland cement internally, rubbed to a highly-polished surface. The present plant is a ten-quarter set, with ample space for extension. The floors of the racking-rooms, stores, &c., are laid with Staffordshire paving bricks. The external walls are faced with red bricks; the piers between the panels having bold moulded angles; the heads and sills of windows and doors being of fine Portland cement.

The machinery is all furnished with the latest improvements, and is by Messrs. Coney-beare, of Greenwich, and Messrs. Morton, of Burton-on-Trent. The whole of the works were carried out by the well-known firm of Government contractors, Messrs. Martin, Wells, & Co., Aldershott, for Mr. Thos. Sheldrake, Ipswich. Mr. J. St. C. Mulley, of Aldershott, was the architect.

Architectural Association.—The President and Committee of the Architectural Association have issued cards for the opening *conversazione* of Session 1882-83, which is to be held on the evening of Friday next, the 27th inst.





THE ROUND ARCH IN THE POINTED STYLE.

Whiteman & Bass *Photo-Litho* 236, High Holborn.

NEW BREWERY PREMISES - ALDERSHOTT

J. St C. Mulley, Architect
Aldershott.

Princess Al

Cottage

Eastb

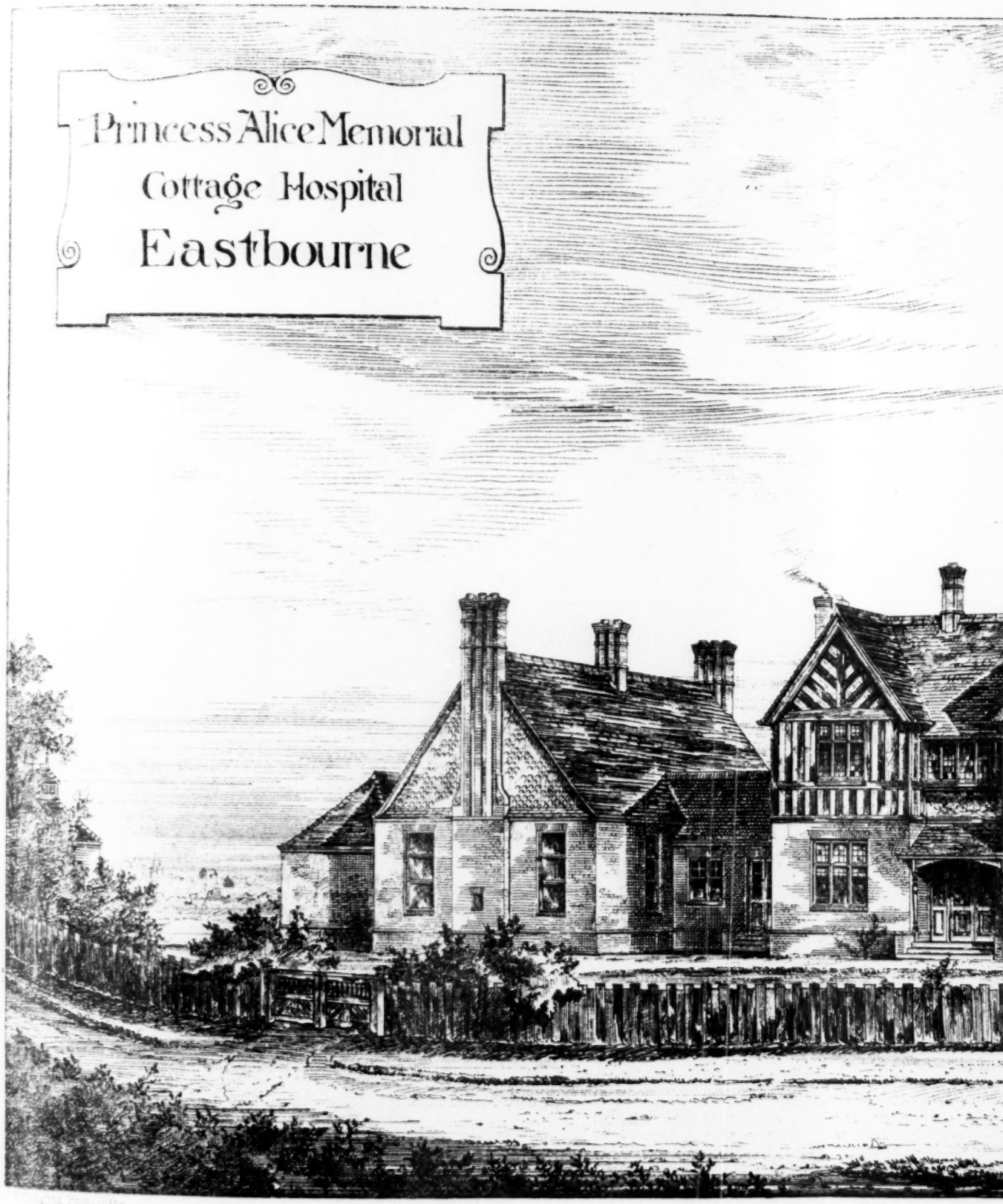
J. F. Knights. Photo-litho

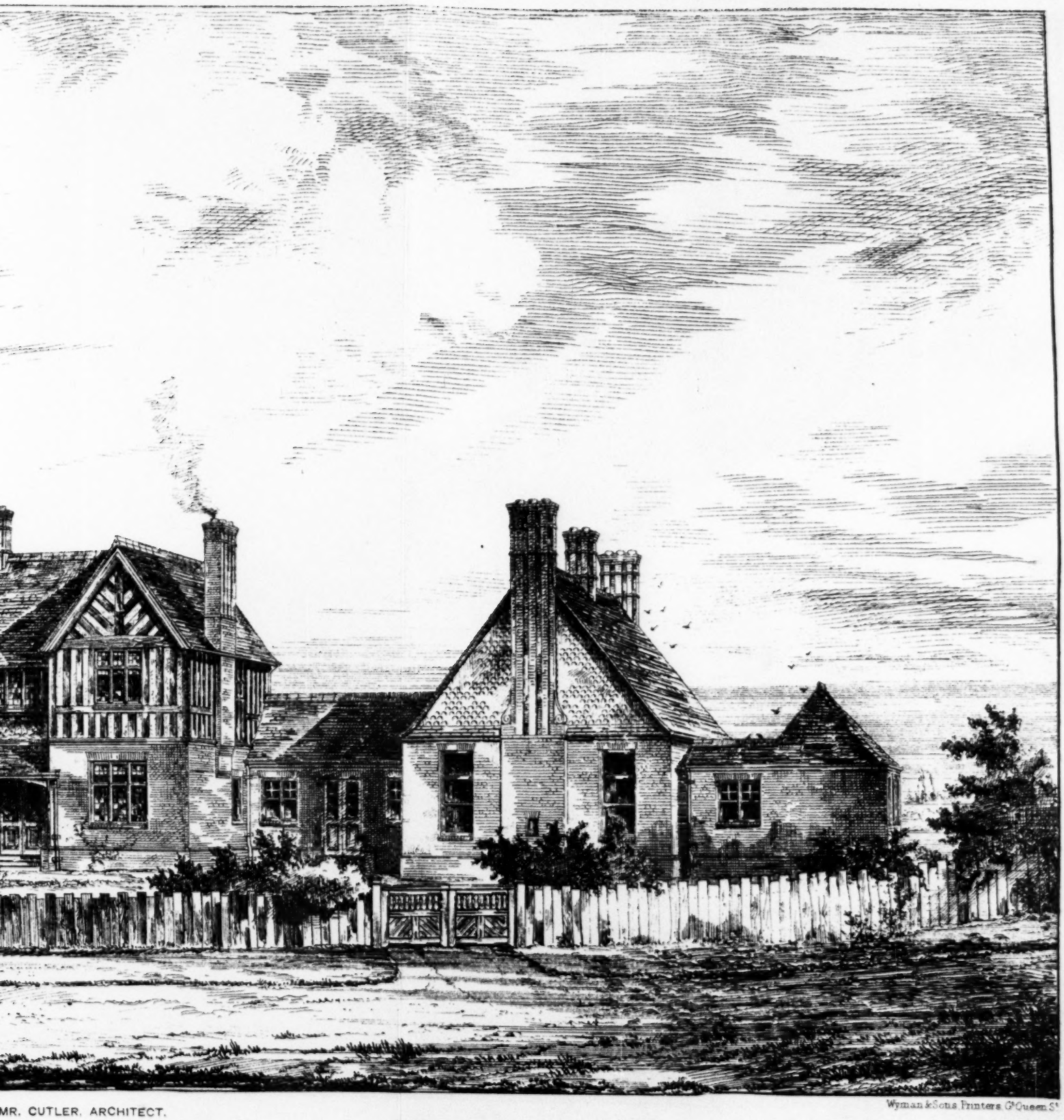
Wyman & Sons, Printers, 74 Queen St

J. St C. Mulley, Architect Aldershott.

NEW BREWERY PREMISES - ALDERSHOTT.

Waterman & Bass. Photo-Litho 236, High Holborn.

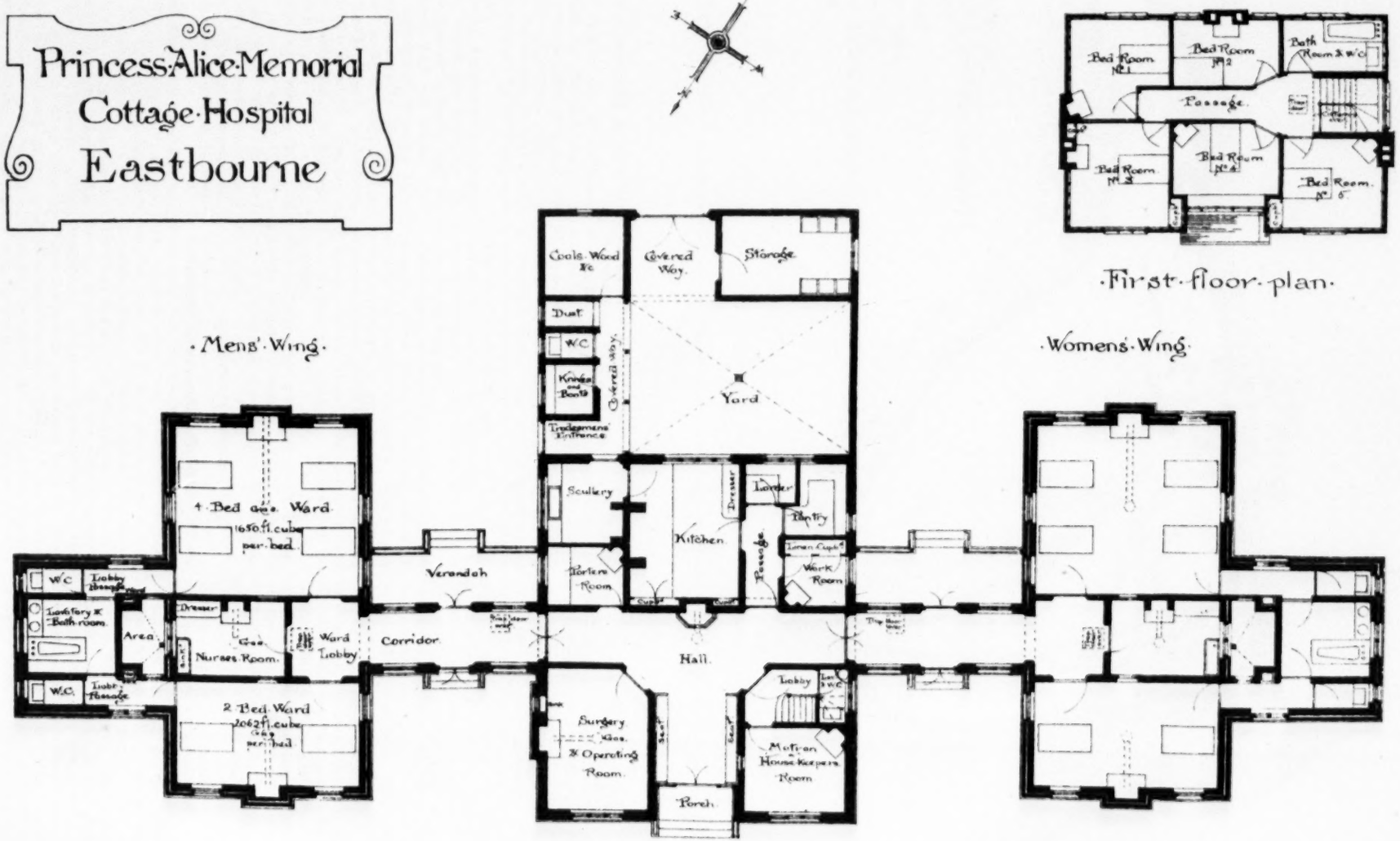




MR. CUTLER, ARCHITECT.

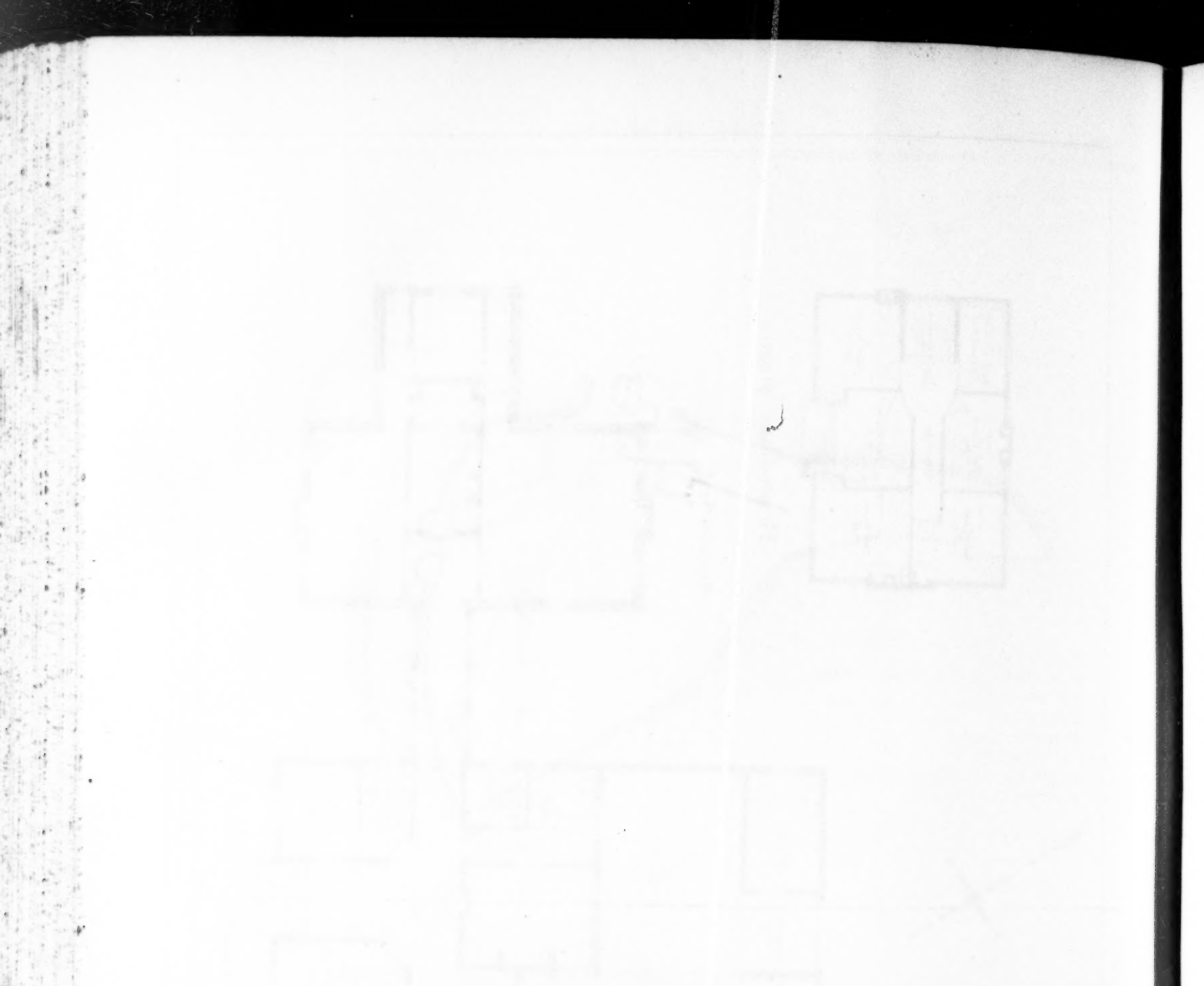
Wyman & Sons Printers G^Queen S^

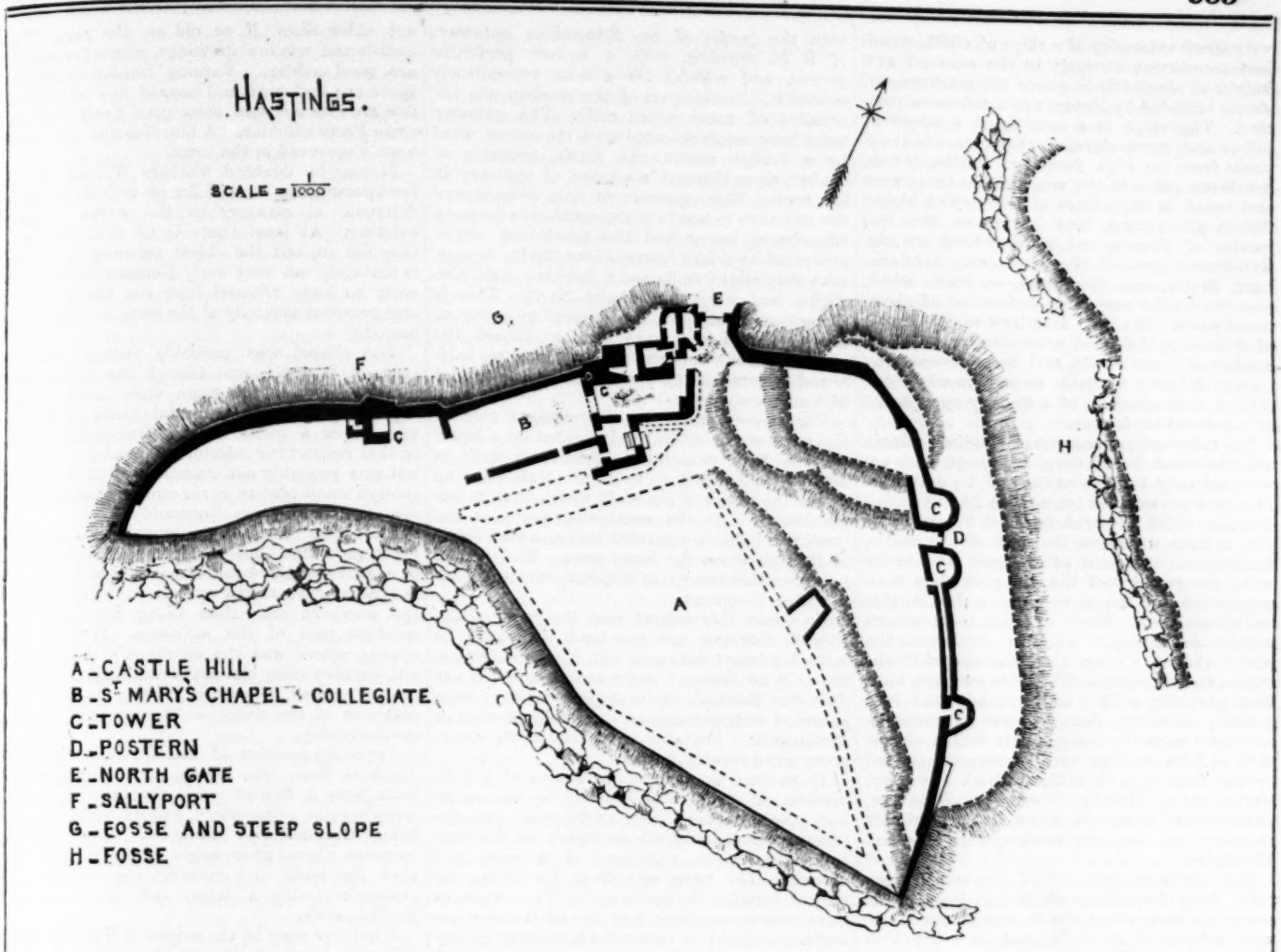
Princess Alice Memorial Cottage Hospital Eastbourne



J. F. Knights, Photo-litho

Wyman & Sons, Printers, G. Queen St.





PRINCESS ALICE MEMORIAL HOSPITAL.

On the death of H.R.H. the late Princess Alice, it was decided by the inhabitants of Eastbourne to erect an hospital as a memorial of her, her Royal Highness during her lengthened visit to Eastbourne in 1878 having made herself much beloved by her kindly acts and gracious manners.

The hospital is being built on a site close to the railway station, which was given by Mr. C. D. Gilbert. The subsoil is chalk; and the main building is faced with red bricks. The roofs are covered with brown Broseley tiles. The upper floor of administrative block will be half-timbered. The walls are built hollow, and lined inside water-closets, bath-rooms, lavatories, &c., with glazed bricks. The floors of the wards are to be laid with oak in narrow widths, and wax-polished.

No skirtings or mouldings will be set up to collect dust or dirt. All internal woodwork is to be varnished. All baths, sinks, lavatory basins, and so on, are to be of white glazed pottery in one piece. All sinks, lavatories, &c., are to be free from inclosed framing, to insure cleanliness.

The grates in the wards are to be Galton's ventilating grates for the supply of warmed fresh air. The ward flues are to be swept from the outside of the building.

Natural ventilation is to be effected by window-sashes, glazed with plate glass, divided into three compartments, the bottom and middle sashes to be hung so as to be raised or lowered any height as required, the top sash hinged to fall inwards, with glass hopper sides to admit fresh air without draught. Fresh-air inlets will be carried under every bed in the wards, to be opened or shut as required. The gas lights are to be enclosed in locked globes, so that all fumes may be carried direct into the ventilating-flue. Ventilating-flues (for exit of vitiated air), heated by gas, and smoke flues, are provided to all rooms. Fresh air will be admitted to the back of the fire-grates, warmed, and supplied to the wards, surgery, and matron's room. Slop-sinks, lavatories, baths, and water-closets are disconnected from the wards by cross-ventilated lobbies. The wards are detached from the administrative department by cross-ventilated corridors. All the drains are carried direct to the outside of the building, and flushed at the two highest points by Field's flushing-tanks, and ventilated by fresh-air shafts near the entrance to the sewer, and ventilating-pipes on the highest points.

The foundation-stone was laid by H.R.H. Princess Christian of Schleswig-Holstein, Princess Helena of Great Britain and Ireland, on the 5th of July last.

The hospital, without detached mortuary, will cost about 5,000*l.*, and is being built with funds raised by voluntary contributions. The success of the movement is greatly indebted to the personal exertions of the Rev. Canon Whelpton, chairman; Mr. G. Gurney, hon. treasurer; and Mr. J. H. Campion Coles, hon. secretary of the committee.

The building is being erected by Mr. Gregar, Victoria Wharf, Stratford; Mr. W. Slack is clerk of works, and the architect is Mr. Thos. W. Cutler.

Liverpool Engineering Society.—At the meeting of this Society, at the Royal Institution, Colquitt-street, on Wednesday evening, the 11th inst., Mr. F. B. Salmon, president, in the chair, a paper on "Some recent Progress in Electrical Engineering" was read by Mr. J. S. Brodie, M. Inst. M.E., of the City Engineers' Department. The paper described leading types of dynamo-electric generators, including those of Siemens, Gramme, Brush, and Lactraussée, discussing the merits and comparative efficiency of each for the production of electric currents. The secondary batteries of Planté, Faure, and De Meritens were next illustrated and described. Passing to the subject of the electrical transmission of power, the electrical railways of Siemens, at the Paris Exhibition, was explained and illustrated by diagrams. An interesting discussion followed. We understand that a supplement to the paper, on "Electric Lighting," will be read at the next meeting of the Society, on the 25th inst., by Mr. Brodie.

HASTINGS CASTLE.

The Rape of Hastings is the most eastern of the six divisions of the county of Sussex, which are supposed to derive their somewhat peculiar name from the early occupation of the district by emigrants from Jutland. The Rape of Hastings probably is so called from its principal town, which was also the seat of its lords, both before and after the Norman conquest. Like the other Rapes, it had its river and its forest, its castle and its castelry, often designated as an Honour. The river, the Rother, is the common boundary of Kent and Sussex, and joins the sea at Rye. The forest, long since disafforested and enclosed, is represented by frequent patches of woodland, scattered over the least fertile parts of the district, and by the numerous and well-timbered parks by which it is characterised. The town once possessed a small port, now silted up. It was situate at the mouth of a stream, which still brings down its inconsiderable tribute, flowing at the foot and to the west of the castle hill.

The origin and etymology of the name of Hastings are lost in obscurity. It is so uncommon that it has been supposed to come from Haesten, the celebrated pirate and Danish Viking, who infested the southern coasts of England and the valley of the Seine in the ninth century,—a period when warriors of Northern descent gave their names to their possessions, instead of, like their descendants of two centuries later, reversing the practice. Mr. Lower, familiar with Sussex topography, has suggested that the small stream of the Asten, a few miles west of Hastings, may play some part in its etymology, and that Hasting, or the Haesten-Ceaster of the English, may have stood upon its margin. It has also been regarded as the seat of the Hastinges, a tribe said to have been warred upon by Offa of Mercia in 792. Another not less interesting point connected with the place is the fact that it gave name to the ancient family who so long ago bore the title of Pembroke, and still bear that of Huntingdon.

The castle occupies the narrow, acute, and

very steep extremity of a ridge of chalk, which here terminates abruptly to the seaward at a height of about 180 ft. above the seashore, and seems intended by Nature for a defensive position. The ridge is a spur from a range of larger and more elevated character, which extends from the high ground of Battle, by Ore, south-eastwards to the sea, and has to its west and south a large tract of broken and highly fertile picturesque land known as the hop garden of Sussex, and within which are the well-known seats of Hurstmonceaux, Ashburnham, Battle, and Crowhurst,—a tract which presents to the sea an open frontier of about twenty-two miles from Hastings to the Marsh of Pevensey, defended anciently by the two castles of those names, and more recently by twenty or thirty martello towers, in which our fathers, three-quarters of a century ago, placed an expensive confidence.

The ridge and promontory of Hastings remain unincumbered by modern buildings, and are occupied only by the castle and its outworks. The older part of the town, with its two parish churches of St. Clement and All Saints, occupies a deep valley to the east of the castle, while round the nose of the rock, and to its west, the remains of the old port have been superseded by the new town, a fashionable watering-place. Much of this town stands within the parish of St. Mary de Castro, the parish church having been the chapel of the castle, and collegiate. The town seems to have been partially walled, and certainly had four gates. Hastings, though now affording no accommodation for shipping, is still a cinque port, and its ancient consideration is attested by the fact that in 1229, Seaford, Pevensey, Bulverhythe, Hidney, Iham, Beaksbourne, Greenhythe, Northeye, were its subordinate members, and *tanquam membra*, were Rye and Winchelsea.

The castle is composed of two wards, separated by a formidable ditch cut through the sandstone rock, about 400 ft., across the ridge, with a breadth of 60 ft., and to a depth of 30 ft. to 40 ft. The inner ward lies to the west of this ditch, between it and the point of the promontory. The outer ward lies to its east, and is again protected by an outer and considerable, though less clearly-defined, ditch, of greater length than the former, and also crossing the ridge. There was also another ditch cut as a sort of step in the steep northern slope, and covering that side of the place, and chiefly intended for the defences of the inner ward. Between the east end of this ditch and the north end of the great cross ditch was the original entrance to the inner ward, the approach to which wound up the steep north-western slope of the rock.

The inner ward is in figure nearly a right-angled triangle, containing about 1¼ acre, the north side 154 yards and the east side 87 yards in length, while the hypothenuse is concave, reducing the breadth of the ward at one point to 16 yards. The cliff which forms the boundary has been either scarped or has fallen away, so that it is at present precipitous, and its face has been patched with modern masonry and brickwork. It is said that this side was once straight, and has been cut away to make room for the gasworks and a crescent of houses below, so as to diminish the castle area. This may be so, but the encroachment cannot have been considerable. A wall for defence on this front could never have been needed: probably there was only a low parapet.

Along the north front the ground, though very steep, is not absolutely precipitous, and along the crest of the slope are the remains of the curtain wall, about 6 ft. to 9 ft. thick, and in parts 20 ft. to 30 ft. high. Upon this wall is a rectangular tower, about 12 ft. by 20 ft., having a ground and upper floors in which are parts of three windows of Norman date. Connected with this tower are said to be traces of a small postern, and there is certainly a mural passage, 18 ft. long, ending in a garderobe. East of this tower is a turret, square at the base, but which above seems to have been cylindrical. It contains a well-stair connected with the chapel. The wall is continued round the east front, across to the cliff. At the angle it is still 20 ft. to 25 ft. high, but further on it has been reduced to 10 ft. In this front, overlooking the ditch, are the bases of three half-round buttress towers, 20 ft. diameter. Their ground-floors have been vaulted in; all above is removed. Between the two most northern of these are still to be seen the jambs of an Edwardian gateway, of 9 ft. opening, with a square portcullis groove, and rebates for a door immediately behind it. In this part of the curtain are the remains of some mural cells. The gateway must have communicated with the outer ward by a bridge across the ditch, probably of timber, since there is no trace of masonry in the rock. This entrance is now disused, and the entrance in use is in the north side between the chapel tower and the north-east angle, protected by a late tower, about 20 ft. square, with very slight walls and a flanking wall, also slight, and projecting about 20 ft. This is thought to have been the original gateway of the ward, and may have been so, though the other entrance between the two flanking half-round towers has at present more the aspect of a main entrance.

The eastern, naturally the weakest side of the inner ward, is further defended by a broad artificial bank or ramp of earth from 20 ft. to 30 ft. broad and 8 ft. to 10 ft. high, piled up against the back of the wall, which, in fact, is a revetment. At the north-east angle of the ward this bank is expanded into a mound about 20 ft. high above the inner area. The curtain traverses this mound, of which about two-thirds is within its circuit.

No doubt this mound was the keep of the English fortress, and the bank and ditch its main landward defences, but, save the curtain, there is no trace of any masonry upon it, nor does the Norman castle appear to have been provided with any regular keep, either shell or rectangular. Probably, as at Exeter, the whole inner ward was the keep.

There are at present no traces of a hall, kitchen, or regular lodgings, within the castle, but placed against the north wall are the remains of the chapel, or rather of the free collegiate church, composed of a nave and chancel. The nave was 30 ft. by 64 ft., the curtain forming the north wall. There seem to have been a west door, and one or perhaps two south doors. At its east end a handsome highly-pointed arch opened into the chancel, and still remains very perfect. The jambs are square, the angles replaced by delicate shafts, a quarter engaged, with caps and bases of Norman type. The abacus is part of a moulded string, and the arch, though the section is square, as in the Norman style, is richly moulded. The central member of the arch is a bold rib, springing from two brackets or corbels carved in foliage. The general character of the whole is very late Norman, passing into Early English. In the north wall, at its east end, are the remains of the arches of three sedilia, and near the middle of the wall, in a sort of buttress, is a piscina, probably a Perpendicular insertion. Near the north-west angle is the cylindrical base of the font. In the east wall, on each side of the chancel arch, is a flat-topped doorway of rude workmanship, as though intended to be concealed by hangings. The northern door opens into the well-stair of the turret, the southern into a vestry.

The chancel was about 18 ft. broad by 28 ft. long. Of its walls only a few traces remain. It communicated on the north side with a small chamber, perhaps a garderobe, and on the south side with the vestry. The vestry, called also the chapter-house, is a small, nearly square chamber, 12 ft. by 15 ft., with a plain Norman recess in its east wall, and the jambs of a door, evidently Norman, opening into what seems to have been a sort of lean-to cloister resting on the south wall of the nave. The cloister itself is gone, but in the nave wall are traces of an arcade. Here are three graves inclosed in pieces of stone placed edgeways, and a much-worn dos-d'âne coffin-lid. The breadth of the nave is wide for a single span, but if there were aisles, there must have been two, the arches being central, and in that case very narrow ones, even for a Norman church. The floor of the chancel is three steps above that of the nave.

The curtain wall along the north front and over the mound is apparently of Norman date, as is most of the east wall; but its buttress-towers and the gateway are probably insertions of the reign of Henry III. or Edward. The chapel may be later than the north wall, probably of the reign of Henry II. or John.

The old part of the masonry is coursed rubble, with occasional pebble-stones, faced with bold open-jointed ashlar, the blocks being rudely dressed. In one part, near the church, is a little herring-bone work, though probably not older than, if so old as, the rest. The quoins and window-dressings, where preserved, are good ashlar. Various fragments of cut stone are collected and heaped up; of these a few are late Norman, some good Early English, some Perpendicular. A late Norman crypt has been discovered in the town.

It may be doubted whether William or his feudatories, the Earl of Eu or de Tilliol, added defences in masonry to the works already existing. At least there is no evidence that they did so, and the oldest masonry now seen is certainly not very early Norman, though too early to have allowed time for the decay of any previous masonry of the same architectural period.

The chapel was probably founded in the reign of Henry I., and though the castle was erected by, and for some time held, under the Crown, by the powerful Earls of Eu, it was never a great baronial residence, being in that respect far inferior to Arundel or Lewes, but was probably maintained only as a strong though small post to cover embarcations for, or disembarcation from, Normandy.

The outer ward is contained between the inner and outer lines of ditch; within the latter is a considerable bank of earth, which rises at the north-east angle, and is continued across the northern end, that being naturally the weakest part of the inclosure. It does not appear where was the entrance of this ward, but possibly near the south-east angle. There are no traces of masonry here, so that the defences of the outer ward may have been a stockade only.

From the position of this fortress it is most probable that, like Dover, it may originally have been a British work, the entrenchments including the promontory, and the south ditches being the defences landward. The mound, however, placed at an angle of the inner ward, upon the bank, and covering the approach, is almost certainly a later, and, no doubt, an English work.

Whatever may be the origin of Hastings as a defensive work, its known history commences towards the end of the sixth and the beginning of the eighth centuries in the times of Offa and Athelstane, when it was a place of some consequence, and contained a mint. Coins, indeed, were minted here as late as the reign of Henry I.

The termination, "ceaster," which it then bore, shows it to have been fortified. Towards the middle of the eleventh century it was plundered by the Danes, and towards the middle of that century it was the men of Hastings who, after the murder of Beorn by Swegen, captured his ships, and slew his accomplices in the murder, though Swegen himself escaped. Hastings also played a part in the Norman Conquest, though not that popularly assigned to it as the scene of the battle. William landed at Pevensey, and thence moved rapidly to Hastings in search of food. There Odo of Bayeux, as one of his lieutenants, ordered a fortress to be thrown up "ut foderetur castellum," and thence, according to the same authority, the Bayeux tapestry, William marched against Harold. William, we are told, on reaching the port, selected a proper site, and fortified it rapidly with a castle in timber, "ligneum castellum." This, we must suppose to be a replacing or restoration of whatever there was standing on the old site. It can scarcely have been a palisade on the low ground below the castle rock. He then placed Humphrey de Tilliol, brother-in-law of Hugh de Grantmaisnil, to discharge his orders, "qui Hastinges a prima die constructionis ad custodiendum susceperat." Wace's description applies more to Hastings than to Pevensey, which was already walled in:—

> "Un chastel i ont fermé
> De bretesches è de fossé."

De Tilliol's occupation was confined to the construction or restoration of the defences: the castle and castelry, manor, and superiority of the whole Rape were granted by William to Robert Earl of Eu, one of the most powerful of his Norman adherents. This grant of the castelry is recorded in Domesday, and a castelry involves the existence of a castle. The Earls of Eu held possession for five generations in the male line. No doubt, either Earl William, who succeeded in 1090, or Earl Henry, who died 1139, executed some works in masonry at the castle,—probably the wall of the *enceinte*, much of which still remains. Either the first or second earls founded within the castle a free chapel

and college, with a dean and secular canons, and to this Henry, the third earl, added a considerable endowment by charter in the reign of Henry I. The college survived the castle, and flourished when the latter was a ruin. Thomas à Becket held the deanery, and William of Wykeham one of the prebends. The college endured to the 38 Henry VIII., when it was dissolved, and the property alienated to Sir Anthony Brown. After the extinction of the Eu barony the patronage vested in the Crown. The charter of Earl Henry is recited in a confirmation, 22 Edward I.

In 1088 the castle probably had been made strong, for it was the boast of William of St. Calais, Bishop of Durham, that he secured Hastings for William Rufus. It was the place of muster for the powerful military force with which that king proposed to invade Normandy. At that time Anselm and many bishops and barons were present in and about the castle, and were detained there from Candlemas in 1094 for six weeks by contrary winds, during which time the king was present at the completion and consecration of his father's Abbey of Battle. Immediately afterwards Robert Bloet was consecrated bishop of Lincoln within the chapel of the castle, and here also Bishop Herbert of Thetford was deprived of his see. It was in the castle of Hastings also, on this occasion, that Rufus once more refused attention to the reasonable remonstrances of Anselm, who left him unblessed to depart on his Norman expedition. The Earls of Eu, by no means always faithful vassals of the Crown of England, seem latterly to have neglected the castle, which was inferior to Pevensey as a muster-place for troops, and had become of but moderate value. Henry, the fifth earl, who died in the reign of Richard I., left an only daughter, Alice, who married Ralph de Essoudun, who in her right became Earl of Eu, and so died in 1211. Their son, William, elected to become a subject of France, and, 29 Hen. III., his possessions in England escheated to the Crown, and were granted to Prince Edward. As early as 1227 King Henry allowed to Robert de Aubeville 10 marcs, half his salary, as keeper of the castle. The college was retained by Henry in his own hands. In 5 Edward III. the dean and canons petitioned to have the castle wall restored, it having been injured by the sea. In 1372 the castle was granted to John of Gaunt, and in the reign of Richard II., it was a ruin, and probably so remained. The Early English work, especially connected with the chapel, was probably executed by Henry III. on his acquisition of the barony.

By Henry IV. the castle was granted to Rafe Neville, Earl of Westmoreland, with reversion to Sir John Pelham, who again transferred it, in 1412, to Sir Thomas Hoo, created Baron Hoo and Hastings in 1447. He died without issue male about 1453. The feoffees of Sir Thomas sold the castle and other property, in 1461, to Sir William Hastings, who in that year was summoned to Parliament as Lord Hastings of Hastings. By his descendant, Henry, Earl of Huntingdon, the castle and its appendages were sold, in 1591, to Sir Thomas Pelham, in whose descendant, now Earl of Chichester, they remain vested. Those who wish to understand thoroughly the position of Hastings as regards the landing, first movements, and subsequent advance of Duke William upon English soil, will do well to consult the very lucid and quite original account of the battle of Senlac, given in Mr. Freeman's "History of the Conquest." G. T. C.

SYNAGOGUES.

A CORRESPONDENT inquired in our columns a few weeks ago (*ante*, p. 446) whether there is any synagogue in Europe with a spire to it. The *Jewish Chronicle*, quoting the inquiry, adds, "We believe there is not any." We hope this inquiry will be carried further.

British Archæological Association.—We understand the London excursion of the local members of the British Archæological Association has been definitely fixed for October 27th, 28th, 29th, 30th, and 31st,—Friday to Tuesday inclusive. Arrangements are in progress for visiting Heralds' College, Eton College, Windsor Castle, new discoveries at the Tower, Waltham Abbey, Greenwich and Eltham Palaces, &c.

A YEAR'S BUILDING OPERATIONS IN OXFORD.

IN accordance with its custom at the commencement of the Michaelmas term, the *Oxford Journal* gives a description of the new collegiate and other buildings which have been in course of erection or alteration during the past twelve months. From this account we extract and condense the following details:—

The Divinity Schools.—This fine pile of buildings,—including Bodley's Library,—has been undergoing thorough restoration during the last five or six years, at a cost defrayed by the curators of the University chest, under the direction of M. T. G. Jackson, architect, Devereux-court, Temple, London. The library, round which the schools are grouped, was finished by the donor in 1598, and formally opened in 1602. Bodley himself died ten years afterwards, and was buried in Merton Chapel. About this time the schools were begun, Thomas Holt, a native of York, being the architect, and he was at his death interred in Holywell Cemetery, where so many notable men connected with the University have been buried. To Holt belongs the honour, if honour it may be called, of having introduced the Classical orders of architecture in a series over each other in the same building. The central tower of the schools is the most famous, if not a unique, specimen of this kind of work in England, and this prominent object has just been restored in a very complete and careful manner. The stone with which it was originally built was from the Headington Quarries. Some sixty or seventy years ago a partial patching up was necessary, owing to the decay of the stone. Roman cement was then used, in the hope that the decaying finger of time might be arrested; but cement and stone have continued to crumble and fall together, especially in wet and frosty weather, in such a manner as to render the structure highly unsafe. The tower, from the pavement to the top of the angle pinnacles, is 110 ft. high, or to the top of the octagon turret, 117 ft. Its width, from east to west, is 31 ft., and from north to south, 6 in. less; so that it is nearly square. The west front is the most important, composed as it is of the five orders of architecture, with Elizabethan ornamentation, the columns rising above each other in pairs on either side. This has now been completely repaired, and as Clipsham stone has been used for the purpose, it is hoped that the weather will have little effect upon the new work. Every detail of the old structure has been minutely copied, stone for stone, and wherever it was possible the work of the former restorer has been retained. This has been rendered still the more easy from the fact that Bath stone was used in those portions of the work which have been allowed to stand. The parts untouched consist of six columns on the south side of the west front, a portion of the cornice of the upper order, the parapet and pinnacles. The masonry is solidly laid in Portland cement. The old stained glass and the oriel windows on the east front have been restored and re-leaded by Messrs. Powell & Sons, Whitefriars, London, the subjects being chiefly Scriptural. A curious discovery was made near the canopy over the statue of James I. in the course of the demolition. A window, similar to those above and below, evidently occupied the site of the existing group of figures previously to their being placed *in situ*. Part of the inside arch and jambs were left undisturbed. Lightning-conductors have been fixed to all prominent points, as well as over the rest of the building, by Messrs. Newall & Co., of London. The east front of the tower has also been carefully restored. The splendid oriel window lighting two floors, and which is 39 ft. high and over 10 ft. wide, is divided by mullions and transoms, and, besides the tracery panelling, there is much carved work in the several stages. In the upper part of the window the old stained glass has been restored, as have the two transom windows above. In the parapet between the angle pinnacles are built intermediate pinnacles, according to the original design, and half pinnacles answering to those on the west front form buttresses at the north-east and south-west corners. The arches over the upper windows are strengthened by wrought-iron rods; ornamental fleurs-de-lis are placed in the parapet coping; and the remainder of the tower is strengthened with iron tie-rods passing through both walls, and secured with nuts and plates. The windows on either side of the tower have been replaced according to the original design. The restoration of this chief feature has occupied just over a year, and has cost over 6,000*l*. Mr. Burgess has been clerk of the works. The carving was done by Mr. M'Culloch, Kennington-road, London; and the general contractors were Messrs. Symm & Co., of Oxford.

The New University Schools.—We some time ago published a description of these schools, of which also Mr. Jackson is the architect. The principal features which remain to be noticed are the lighting arrangements, and the carving work which is now being executed in the front. The former have been carried out by Messrs. Hart, Son, Peard, & Co., of Wych-street, London. The gaseliers which light the great hall and the west ante-room have been reproduced from Flemish examples. In the writing-schools and north-west and south-west halls there are simpler pendants, designed in the feeling of the Flemish chandeliers. The panels on each side of the principal entrance are now being carved, and represent a *viva voce* examination for a degree on the one side, and the conferment of a degree on the other.

Brasenose College.—The buildings in course of erection at this college will take the place of two slightly-built and not-well-planned constructions, now standing in the kitchen or cloister quadrangle. By their removal, and that of some cottages and outbuildings, a spacious quadrangle, bounded on the east by the ante-chapel and cloisters, and on the west by the new wing, which is set a good way back, will be formed in the place of the present confined and irregular space. To the south, the new quadrangle is only separated from High-street by the houses and shops facing that street, and the buildings now being erected form part of a scheme for a quadrangle which will extend the whole distance from the old Brasenose buildings to High-street, and add one more to the series of collegiate and academical buildings with which that street is lined. The building will contain twenty-two sets of rooms for undergraduates, two large lecture-rooms, and a spacious set of rooms for a Fellow. The old collegiate plan of disposing the rooms on separate staircases had been followed, but various conveniences in the way of sculleries and servants' offices are provided, which were unknown or disregarded when the older college buildings were designed. The foundations are laid at a depth varying from 14 ft. to 20 ft., that being the depth of the "made" or artificial earth for the most part within the ancient limits of the city. In the soil that has been removed at Brasenose, a great variety of relics of the past were found, consisting chiefly of pottery, coins of no great value, old knives, wig-curlers, and tobacco-pipes, some of which date from the introduction of tobacco. In order to gain space enough for the new building it was necessary to demolish the greater part of Amsterdam Court, which occupied the site, and preserved the name of Amsterdam or Broadgates Hall, one of the numerous academical halls with which Oxford abounded during the Middle Ages, and especially before the existence of colleges. The walling of the new building is of Headington rubble, faced with Gibraltar rag-stone, with dressings of Clipsham stone for strings, cills, weatherings, and mullions, and hard Doulting for the rest. Flagstone from Castlehill, near Thurso, will be used for the landings, and the stairs will be of hard Portland. The foundations and the walls, to the height of about 3 ft. above ground, were put in by workmen under Mr. Mockford, the clerk of works. The contract for the building above this level has been let to Messrs. Symm & Co., of Oxford, who have carried the buildings almost to the roof.

Lincoln College.—The new buildings here form the north side of the space of ground known as The Grove, at Lincoln College, bounded on the west by the older quadrangle of that college, and on the east by the back of Brasenose College. They replace the old "Grove buildings," which contained eleven sets of small and inconvenient rooms, and which, although only built in 1759, had suffered so much from the action of the weather on the perishable local stone of which they were constructed as to have become dilapidated. The new building, now approaching completion, is designed by Mr. T. G. Jackson, and contains fifteen sets of rooms for undergraduates, and one set for a Fellow, besides making provision for some of the servants' offices. The depth to which it was necessary to go in order to secure

a sound foundation has given opportunity for an extensive basement, which serves partly for cellarage and partly for sculleries and servants' offices, a convenience unknown to the economy of older collegiate buildings. The basement contains also a new larder, reached by a subway from the college kitchen. The south front is faced with Handborough stone, and the north is of red brick, coursed with ashlar, the dressings throughout being of Clipsham stone. The stairs are of Portland, with landings of the extremely hard Castlehill flags from Caithness. In forming the subway from the kitchen, which is part of the original college buildings of about 1436, it was found that the foundations were about 17 ft. deep, although the ground had apparently been very little, if at all, raised since the building was erected, the floor being still at the ground-level. In joining the new building to the college hall, it was necessary to open one of the hall windows which had been blocked on the outside with masonry, and concealed on the inside by the panelling erected by Lord Crewe in 1701, at which time, probably, the other hall windows were converted into the present plain square sashed openings. On opening this blocked window the original tracery was found behind it so complete that the whole of the design could be accurately recovered. The foundations and basement up to the ground-level were put in by workmen under Mr. Mockford, the clerk of the works. The contractor for the superstructure is Mr. Estcourt, of Gloucester.

New College.—Extensive alterations have been in progress at this college in re-modelling and re-organising the kitchen wing and its various offices. The original kitchen of William of Wykeham's foundation must have been a lofty and spacious apartment, but subsequent alterations and clumsy fittings, which may, perhaps, have been convenient in their day, sadly marred its proportions. The kitchen has now been restored to its probable former size. An entirely new system of cooking apparatus, with steam and hot-water services, has been fitted up by Messrs. Jeakes & Co. The old larders and other offices have been replaced by substantial new buildings. The builder's work is being executed by Mr. Holland, Hurst-street, under the superintendence of Messrs. Wilkinson & Moore, architects.

Magdalen College.—Great progress has been made with the new buildings for this college, the roof rafters having been fixed. The work consists of thirty sets of rooms, with lecture-room, and Fellows' chambers, and the style, to be in keeping with the remainder of the college buildings, is Late Perpendicular. The front stands about 200 ft. in length in the High-street, and the west wing goes to a length of 114 ft. northwards. The oriel windows in the east and west ends of the High-street front constitute prominent architectural features in the building, and in the spacious lecture-room the panels are richly carved with representations of lilies and Tudor roses. The stone which has been used is Headington and Taynton, and the gurgoyles are of Ancaster stone. The tower, which will harmonise with that of the founder, will rise to a height of 80 ft., beside the pinnacles. The architects are Messrs. Bodley & Garner, of London. Messrs. Franklin & Son, of Deddington, are the builders; and the carving has been executed by Mr. McCulloch, of London. Mr. Fitzwilliam is the clerk of works. Sundry improvements and restorative works have been carried out at this college by Mr. George Castle and Messrs. Knowles & Son, and where any architectural features were interfered with the designs were furnished by Messrs. Wilkinson & Moore.

Keble College.—Further works of extension have been carried out at this college, and they are in a style corresponding with that of the rest of the buildings, namely red brick with Bath stone dressings. The additions comprise a bursary, steward's office, over both of which is a lecture-room, 39 ft. in length by 26 ft. in width, and twenty sets of rooms for undergraduates, together with the necessary offices. The new buildings extend 131 ft. in length by 30 ft. in depth, and the lecture-room is approached by a flight of Derbyshire marble steps. Messrs. Parnell & Son, of Rugby, who have been entrusted with the construction of the rest of the college, are the builders, Mr. Butterfield being the architect. The work has been superintended by Mr. A. G. Cook as clerk of the works.

University College.—At this college, Messrs. Symm & Co. have restored several of the stone gables in the Radcliffe Quadrangle, which were found to be in a very dilapidated state. Taynton stone has been used. The same builders have also carried out extensive improvements in the drainage at Balliol, Merton, and Corpus colleges, and the Radcliffe Observatory, from the plans of Mr. Griffith, C.E.

The Indian Institute.—The work of pulling down the six old houses, excavating the ground, and laying the foundations of the building for the Indian Institute, the site of which is at the east end of Broad-street, has been accomplished by Messrs. G. Wyatt & Son, and the contract for the erection of the building has been undertaken by Messrs. J. R. Symm & Co., who have already commenced operations. The architect is Mr. Basil Champneys, and the style of the building will be that commonly known as Jacobean. The angle formed by the junction of Holywell-street with Broad-street will be occupied by a turret surmounted by a lantern, which will contain the staircase, leading to the basement below and to the library and museum above. On one side of this turret, facing Broad-street, will be the main entrance. The whole of the first and second floors towards Broad-street will be occupied by the library, which will, when completed, have a series of five oriel windows, while the upper floor will have the same number of smaller windows lighting the galleries. The front towards Holywell-street will be necessarily of irregular shape, and will be broken up into parts by two projecting features, which are intended to obviate the awkwardness of the site. The material throughout will be of Milton stone.

Radcliffe Infirmary.—A new entrance-lodge for this institution has been erected by Mr. Thomas Selby, builder, from the designs of Messrs. Wilkinson & Moore, architects.

Church of St. Peter-in-the-East.—An improvement has been effected in this church by the removal of the old pulpit, and the substitution for it of one of Caen stone, in the Byzantine style. The front is supported by four columns, and it is very richly moulded. The carving has been executed in a very excellent manner by Mr. McCulloch, of London, who also has had the charge of the stone screen under the chancel arch. New oak choir seats and desks have been placed in the chancel. An old piscina has been discovered in the south wall of the chancel, and is now exposed to view. Mr. Jackson has been the architect of the work, and Messrs. Symm & Co. the builders.

Wesleyan Mission Room, St. Clement's.—A large mission-room for the Wesleyans is now in course of erection at the end of William-street, Cowley-road, to seat 300 persons. The walls are being constructed with red bricks, the south and east fronts being faced with Garsington white bricks, relieved with Headington red bands and plinths. A row of semicircular-headed windows, in pairs, with beaded brick arches (with keys and chamfered jambs), will be in elevation next William-street, with bold doorway in harmony with the windows. The whole is being carried out in separate contracts for each trade from the plans and under the superintendence of Mr. J. C. Gray, architect.

Magdalen Bridge.—The work of widening this bridge was commenced in April, notwithstanding protests, since which time the abutments and piers in the north-western branch of the Cherwell have been built, the centres fixed, and the arches partly turned, and similar progress has been made with the small land arches adjoining. A large portion of the retaining-wall of the bridge has been erected in the meadow between the two branches of the river, and the space between it and the old work partially filled up. A dam has lately been placed across the south-eastern arm of the river and the water pumped out, and the piling and concreting for the foundations of the abutment-piers are now going on. To enable these works to be pushed forward with the greatest possible expedition a gas-lamp of 100-candle power has been suspended from each arch, so as to thoroughly light the works at night. The foundation of the curved wing walls, at either end, is also partly done. The main-surface water-drain from the High-street has been diverted, so as to discharge below the new part of the bridge, and the river-wall to the Botanical Gardens has been set back and rebuilt. In order to facilitate the passage of the river water through the bridge a temporary channel has been cut across the meadow, on the upper side of the bridge, so as to connect the two branches of the river. By an arrangement between the Local Board and the Thames Valley Drainage Commissioners, and in view of the river improvement works contemplated by the latter body, certain works,—agreed upon between Sir John Hawkshaw and the engineer to the Board,—have been carried out in the north-western branch, and will be likewise executed in the south-eastern branch of the river, so as to enable the river to be deepened to the extent recommended by Sir John Hawkshaw without endangering the foundations of the old part of the bridge, which have been discovered to be shallower and more unsatisfactory than was at first supposed.

New Hincksey.—A new street has been opened in this locality, leading out of Lake-street, by Mr. James Boffin, who has erected a row of nine houses, with bay windows to each, on one side, and he is at present erecting six on the other side, of a class suited to the requirements of the neighbourhood. The architect is Mr. J. C. Gray, 82, Cowley-road, Oxford, who also superintended the erection. In Cross-street, New Hincksey, the Wesleyans have erected a mission-room suited to this growing suburb of Oxford. The walls are constructed of red and white bricks, relieved with bands, and the roof is covered with blue slates. The seats and rostrum are of pitch-pine, stained and varnished. Mr. Gray was the architect.

New District Church for Cowley St. John.—Rapid progress is being made with the new district church for Cowley St. John. It is situated in the Cowley-road, in close proximity to the University Cricket-ground and National Hospital for Incurables. The style is Early Decorated, the walls of Charlbury stone, with Box ground weather stone external dressings, and Corsham Down stone internally. The chancel was built seven years ago, and the remainder of the church will be in accordance with that. The church will accommodate 730, and consists of nave, 69 ft. by 25 ft.; north and south aisles, 54 ft. by 12 ft.; north and south transepts, 14 ft. by 15 ft.; tower, 16 ft. square; vestry, 17 ft. by 17 ft.; organ-chamber, 17 ft. by 8 ft. The tower is at the west end, and when completed, its total height, with spire, will be 183 ft. It will have a wooden polygonal panelled roof inside; its height in nave from floor level to ceiling will be 43 ft. There will be five bays in good proportion on each side of nave, with an arcaded clearstory above. The nave is to be commenced at once, and the cost of the present work will be 7,000*l.*, and it is estimated that the carrying out of the whole undertaking will involve an expenditure of 13,000*l.* Mr. Mardon Mowbray is the architect, and Messrs. Symm & Co., of Oxford, are the builders.

The Hospital for Incurables.—Sixteen more rooms and offices are being added to the Hospital for Incurables. Bath stone is being used for the dressings, and Charlbury for the face work. Mr. Pearson, of 13, Mansfield-street, London, is the architect, and the builders are Messrs. Symm & Co.

St. Edward's School.—Further additions are in progress at this school. A large new house is now nearing completion, intended as the residence of the Head Master, with accommodation for thirty boarders. The building is carried out with red brick and stone dressings, in a style to match the other buildings. The work is being executed by Mr. Franklin, of Deddington. Messrs. Wilkinson & Moore are the architects.

The "Queen's Restaurant."—This new restaurant, situate in Queen-street, midway between New Inn Hall-street and Corn Market-street, has been opened. The architectural designs were supplied by Mr. H. J. Tollit, of St. Aldate's-chambers, who superintended the carrying out of the details. The work has been done by Mr. Bridgford, of Birmingham.

New Schools, Headington Quarry.—At the new Schools, Headington Quarry, an additional schoolroom, 40 ft. by 17 ft., with passage for hats and coats, has been built of local stone, with Bath stone dressings, to match the old work. The cost of the work is about 300*l.*; the builder being Mr. J. Horn. The architect is Mr. Codd.

Residential and Business Premises.—Several residences have been built on the Woodstock-road, by Mr. Brucker, for Mr. Walter Gray, during the past year. Each house is varied in its accommodation and design to meet, as far as possible, the requirements of different householders. The designs were furnished by Messrs.

Wilkinson & Moore, architects. The houses are built of red brick, with stone dressings and tile roofs. A new residence has been built by Messrs. Wilkins, of Eynsham, on the Summertown-road, for Mr. George Fisher, which is the first house to break ground on this freehold building estate. The building is of red brick, with stone dressings, worked out from designs by Messrs. Wilkinson & Moore, architects. On the new building estate recently laid out by St. John's College, adjoining the Canal, Walton Manor, a small colony of cottage residences is springing up. The roads and drainage works are complete, and have already been taken to by the Local Board. In nearly all cases the houses are being worked out from some architectural designs. Those that are at the present time well forward are a pair of houses built by Mr. Arnatt, a pair by Mr. Lucas, and a pair by Mr. Lambourne; also a block of six by Mr. Bedding, and another block of four by Mr. John Money, all of which we believe are from designs by Messrs. Wilkinson & Moore; also a pair of houses for Mr. Bond, from designs by Mr. Gray. Mr. W. Boucher, of Observatory-street, is erecting a detached house on the Iffley-road, from plans and under the direction of Mr. J. C. Gray, for Mr. T. Archer, of the firm of T. & C. Archer, coal merchants. Mr. Matthew Gray, of Cowley-road, is erecting a pair of semi-detached houses in Southmoor-road, for Mr. E. Bond. They are being carried out from the plans and under the superintendence of Mr. J. C. Gray, architect. In Frewin-court, Corn Market-street, the premises of Messrs. Gammon, Wicks, & Co., wine-merchants, are being rebuilt. The elevation is similar in character to that of the offices recently erected in Frewin-court for Messrs. Gammon & Wicks. The work is being executed by Mr. Thomas Selby from plans prepared by Mr. Frederick Codd, architect, Oxford. Alteration has been made to No. 9, King Edward-street, consisting of new front, strong room, fittings, &c., for occupation by the Oxford and Berks Bank, for Mr. St. Swithin Williams. Messrs. Symm & Co. are the builders, and Mr. Codd is the architect. Alterations and repairs have been carried out to the old North Star public-house for Messrs. Baker & Prior, of Broad-street. The new front was manufactured by Messrs. Baker & Prior from drawings by Mr. Rogers, designer to the firm. The general alterations were carried out by Mr. J. Horn, from plans prepared by Mr. Codd. Extensive alterations and repairs have been made to the old Ship Hotel for Messrs. Baker & Prior, of Broad-street, with new furniture warehouse in rear. The building will be fitted up as a University lodging-house. The warehouse consists of four floors, each about 110 ft. by 22 ft., and includes the Martyrs' Tower, one of the bastions of the old city wall, which formerly ran through the site of these premises. With the exception of the foundations and the bastion no part of the old work remained, the wall having been destroyed many years since, but the bastion has been carefully preserved. Messrs. Symm & Co. were the builders, and Mr. Codd is the architect.

Local Board Improvements. — Besides the routine work of the Local Board, a great deal of work in the shape of minor street improvements, paving, draining, &c., has been carried out under the superintendence of Mr. W. H. White, C.E., Engineer to the Board. At Walton Well the retaining-walls and embankment of the approaches to the new bridge over the canal have been completed, and the roadways formed by the Board.

BOLAM CHURCH, NORTHUMBERLAND.

Bolam Church was re-opened for divine service on Saturday last, after having been closed for some months during the progress of necessary restorations. It is an interesting fabric from the fact of its retaining the original Saxon tower raised by the first builder, subsequent Norman work, a Transitional south aisle and south doorway, an Early English elongation of the chancel and a chantry chapel, and two windows formed by the interlacement of lancets. Before the present repairs were undertaken, the roofs admitted rain in many parts; the outside soil had risen higher than the floor, causing walls, piers, and arches to be saturated with an unwholesome moisture. The thick coating of whitewash, which had been put on in former efforts to mend matters, has been now removed, new roofs have been placed over the structure, a new cement floor has been spread over the whole; new sittings have been substituted for the decayed pews; and a new reading-desk and pulpit have been placed in the nave. The Right Hon. Lord Decies and Sir Arthur Middleton have been at the cost of restoring the chancel, and the parishioners have borne the remainder of the cost, aided by the exertions of an appreciating committee and churchwardens. Mr. F. R. Wilson, Alnwick Diocesan Surveyor, has been the architect. The contract for the restoration was taken by Mr. James Gibson, Newcastle, with the exception of the painting and staining, which were executed by Mr. Garvie, Morpeth. The cost of the preservation of this beautiful work of former ages has not exceeded 700*l.*, exclusive of the chancel.

PROPOSED METROPOLITAN STREET IMPROVEMENTS.

At the meeting of the Metropolitan Board of Works on the 13th inst., a long report was presented by the Works and General Purposes Committee in regard to several extensive metropolitan improvements, in respect of which it is proposed to seek powers from Parliament during next session. The first recommendation contained in the report was as follows,—"That application be made to Parliament, in the Session of 1883, for power to form a new street 60 ft. wide, from the Holborn Town Hall to the 'Angel' at Islington, at an estimated net cost of 324,100*l.*

Mr. Dalton, in bringing up the report, said the various suggested improvements had been before the Board and the public over and over again, and they had all been thoroughly investigated and considered by the Works and General Purposes Committee. In respect of the proposed improvement from the Holborn Town Hall to the Angel, the committee had, by a very large majority, adopted the recommendation on the paper. It would be remembered that, in the Street Improvements Bill which the Board introduced in the session of 1877, a portion of the proposed scheme was included, viz., the making of a new street in the form of a viaduct from the intersection of Gray's-inn-road and Liquorpond-street to Mount-pleasant. This proposal, although passed by the House of Commons, was rejected by the Select Committee of the House of Lords, mainly upon the ground that the improvement did not extend sufficiently northwards. Since that period the local bodies had from time to time memorialised the Board on the question, urging the great necessity for the improvement, and suggesting that the original scheme should be extended by carrying the new street to a point near the Angel at Islington. The committee, having fully considered the subject, concurred in the view that it was desirable that this improvement should be carried out in its entirety. He concluded by formally moving the adoption of the committee's recommendation.

After some discussion, the motion was agreed to.

The next recommendation of the Committee was, that application be made to Parliament in the session of 1883 for power to widen to a width of 60 ft. the portion of Walworth-road between Hampton-street and Thomas-place, at an estimated cost of 66,900*l.* On the motion of Mr. Dalton, this recommendation of the committee was approved without discussion.

The Committee further reported that they had also considered the memorials from the Vestry of Islington, referred by the Board at various times, praying them to carry out as a metropolitan improvement the widening of a portion of the Upper-street, Islington. This was an improvement for which, judging from the particulars and statistics placed before the Board, great necessity existed, it being stated that, in consequence of the narrowness of the portion of this road between Islington-green and Barnsbury-street, accidents were of frequent occurrence, and the public traffic was greatly impeded. The committee, having carefully considered the application, and viewed the portion of the road which the Board was asked to widen, had now to report the conclusion at which they had arrived, and submitted the following recommendation,—"That application be made to Parliament in the session of 1883 for power to widen to a width of 60 ft. the portion of the Upper-street, Islington, between Islington-green and Barnsbury-street, at an estimated net cost of 148,000*l.*" Mr. Dalton moved the adoption of the report, which, after a long discussion, was agreed to.

The Committee also recommended that application be made to Parliament in the session of 1883 for power to widen, to a width of 60 ft., the portion of King-street East, Hammersmith, between the Broadway and a point opposite the Roman Catholic Convent, at an estimated net cost of 40,900*l.* Against this recommendation it was argued that this was a local, and not a metropolitan, improvement, and an amendment was moved that the proposition be referred back to the committee for reconsideration. Further discussion ensued, in the course of which it was urged that the street in question was a part of the Great Western-road, that it was one of the most important thoroughfares in the West of London; that a very large and increasing traffic passed though it; and that the road at present between Rowan-road and the Broadway was narrow and inconvenient, and quite inadequate for the traffic.

Mr. Richardson said this was a proposition to go to Parliament for an improvement which consisted of taking the forecourts of the houses to widen the road.

On a division, the amendment was negatived, the numbers being nine for and twenty-eight against. The recommendation of the committee was then adopted.

The Works Committee further recommended (and their recommendation was approved without discussion):—"That application be made to Parliament in the session of 1883 for power to widen, to a width of 53 ft., the portion of Green-street, Bethnal-green, between Cambridge-road and Globe-street, at an estimated net cost of 58,300*l.*" In the course of their report the committee said,—"The grounds upon which this application is made are that there is a constant block of the traffic arising from the extreme narrowness of the greater part of this street, occasioning much inconvenience and sometimes serious accidents; that there has been a large increase in the number of houses and factories east of the thoroughfare; and that the street in question is really the continuation eastward of Bethnal-green-road, from the western end of which road the Board have provided direct access to the West of London."

The Board next resolved, on the recommendation of the Works Committee, that application be made to Parliament, in the session of 1883, for power to straighten the South Lambeth-road, and make it of a width of 60 ft. from Walton-terrace to Wilcox-road, at an estimated net cost of 18,500*l.*

The Works Committee further recommended as follows:—That application be made to Parliament, in the session of 1883, for power to widen Postern-row, Tower-hill, to a width of 65 ft., from the Nag's Head public-house to Trinity-square, at an estimated net cost of 78,000*l.*

This was agreed to.

THE PROPOSED WIDENING OF PARLIAMENT-STREET.

In the "Additional Chapter to the Story of the Government Offices" which we published on the 8th of July last, we criticised the proposal of the Office of Works to build the new Admiralty and War Office on what is known as the Spring-gardens site, especially as the Government had already, by the advice of former First Commissioners, spent a quarter of a million of money in acquiring property in the neighbourhood of Parliament-street and Great George-street. Going on to discuss the eventualities and possibilities of the property so acquired, we said:—

"This land, we are credibly informed, is to be offered to the Metropolitan Board of Works. It is actually proposed, if it has not already been publicly announced, to throw upon the Metropolitan Board the duty of widening Parliament-street by the obvious absorption of King-street, and to hand over, for a substantial pecuniary equivalent, Government property recently purchased at a heavy, even an exorbitant, cost, in order to obtain, at a vast extra outlay, the very improvement in the approaches to the Houses of Parliament which the scheme of building Public Offices in Great George-street would have of necessity accomplished. It is actually proposed thus to misuse money raised by the Metropolitan rates . . . . to continue an enlargement, which, if needed at all, is of imperial, not metropolitan, character."

As a sequel to the above, we have now to note that at the meeting of the Metropolitan Board of Works on the 13th inst., the followirg

was one of the items on the *Agenda*, under the head of "Applications and Communications" received, viz.:—

"Letter from Her Majesty's Office of Works, &c., stating that, the Government having decided on erecting the new Public Offices on the site between Parliament-street [*sic*] and Spring-gardens, it becomes the duty of the First Commissioner to dispose of certain properties in Parliament-street, Great George-street, King-street, and Charles-street, which were acquired in the expectation that the site might be required for Public Offices, but before doing so he thinks it right to give this Board the opportunity of purchasing the property in question, with a view to completing the approaches to Westminster Bridge and the Houses of Parliament by widening Parliament-street to the same extent as Whitehall."

The letter was referred to the Works and General Purposes Committee for consideration and report. We have already expressed our disbelief that the shrewd majority of the Board will be led into the purchase of the property by any anticipation that the value of the new frontages created by the widening of Parliament-street will more than compensate for the entire expenditure involved.

THE WEST HAM LOCAL BOARD AND THE INSPECTION OF NEW BUILDINGS.

Under an Improvement Act which the West Ham Local Board obtained in the late session of Parliament, the Board, amongst other extensions of their powers, were authorised to appoint five building inspectors in addition to those already in their employ. The duties of these new officers will be to inspect all new buildings which may in future be erected in the parish. The determination of the Local Board to appoint these officers has been brought about by the existence of builders of the "Jerry" class, who, it is stated, abound in Stratford and West Ham. The five appointments were made at the meeting of the Board last week. The Building Act Committee submitted the names and qualifications of eleven selected candidates out of the large number of applicants from different parts of the country. The following five gentlemen were appointed by the Board:—Mr. John Adams, Devon; Mr. John A. Angel, London; Mr. Lockyer Sandilands, Greenwich; Mr. David A. World, London; and Mr. John George Morley, Stratford; all of them undertaking to devote the whole of their time to the service of the Board, and to act under the direction of the Board's surveyor.

THE WORK OF THE SCHOOL BOARD FOR LONDON.

SITES AND BUILDINGS.

Mr. E. North Buxton, Chairman of the School Board for London, made an interesting statement of the work that has been accomplished by the four successive Boards which have been elected to administer the Elementary Education Act in London since that measure was passed twelve years ago. We reproduce a few passages from the address:—

The Act of 1870 (said Mr. Buxton) requires that "schools should be provided for all the children for whose elementary education efficient and suitable provision is not otherwise made." We cannot be said to have yet reached this state of things. While the number of schools that have been built, together with those we found in existence, would more than suffice for the children of London as it was in 1870, London in 1882 has increased to such an extent that we still find ourselves in arrear. But though the stern chase which is imposed upon us is proverbially a long one, we have distinctly diminished the distance between the schools that exist and those that are needed. Thus, while the school population has increased since 1871 from 574,693 to 733,060, the accommodation in efficient schools has grown from 262,259, or 45·6 per cent. of the children of school age at that time, to 531,427, or 72·4 per cent. of the children now in existence. During the past three years the school population has increased by 34,720, and we have provided during that period new schools for 70,589. During the twelve years we have provided in 260 schools accommodation for 256,360 children, while the accommodation in voluntary schools, which in 1871 was for 262,259, is now for 261,868. If we now strike a balance of the net results, we find that the number of school places required, after making all necessary deductions for the reasonable causes of absence, amounts to 641,428; while the total number of school places in efficient elementary schools will amount at the end of our term of office to 539,044 only. One practical proof of this deficiency is found in the number of children who are still refused admission in the growing districts. While some improvements in detail have been introduced into the construction of our schools, there has not been much departure from the general design which was determined upon some years ago; but in a few cases a large central hall has been introduced, or, where space was a secondary object, schools have been built entirely on the ground-floor. The cost of our permanent Architect's Department, which has been sometimes criticised, is really far less than if we adopted an open system of competition. It amounts to less than 3·5 per cent. on the cost of the schools, and has the further advantage that experience of all suggestions of proved value is accumulated and applied in future designs.

OPENING OF THE GREAT EASTERN RAILWAY COMPANY'S FISH MARKET.

The new wholesale fish-market which the Great Eastern Railway Company has for some months been preparing on the ground level of their spacious new goods station at Shoreditch, has this week been opened for business, and the thousands of residents in and around the extensive districts embraced in the east and north of London have now the advantage of a large fish-market in addition to that at Billingsgate. The new market, which, it may be incidentally stated the railway company have designated a "depot," in order, it is understood, to prevent any interference by the Corporation, is situated on the north side of the station, the principal approach being from Bethnal-green-road, which leads to a carriage-way 30 ft. in width, running alongside the several arches under the station, which form the market. Ten of these arches, which are about 40 ft. in width each, and 100 ft. in depth, have been specially fitted by the company for fish and poultry market purposes. The floors have been flagged and channelled, and a comprehensive system of drainage and sewerage is carried out which admits of the entire floor area of the market, as well as the marble and stone slabs on which the fish are placed, being daily washed and cleansed. These slabs and the whole of the fittings and offices have been put up by the company. Of the means for successful ventilation employed we have less satisfactory knowledge. In the basement under the market floor there is a spacious storage space, which will be occupied by the several tenants of the market. At the rear of the several arches there is a raised platform, a line of rails running parallel with it the entire length of the market. The fish-laden trucks, on arriving at the railway station level above, will be lowered to the level of the market platforms, on to which the fish will be discharged for immediate transmission into the market. There has already been a large demand by dealers for the market space provided, all the arches which have been prepared by the company denoting the names of different fish-salesmen who have become the tenants. The present floor area of the fish-market portion of the depôt, which is capable of extension if necessary, is upwards of an acre in extent. It may be added that the company's vegetable and fruit market, which is formed of the arches on the south side of the station, and which was opened a few months ago, has been so successful that other arches are now in course of preparation for its extension.

Watt and Stephenson.—Among the exterior decorations of the great Polytechnic High School of Charlottenburg, Berlin, are the statues of James Watt and George Stephenson. The latter is represented as the "Father of the Locomotive Steam Engine," having the model of one under his arm. Watt is represented as absorbed in thought; he has a roll of manuscript in his left hand, while his right is raised with a gesture as though he were speaking. Stephenson has his right hand on his breast. Both inventors are represented as bareheaded, and in long coats. Stephenson has his top boots, while Watt is in low buckled shoes, knee breeches, and long stockings. Both the statues are the work of the sculptor, Professor Keil, of Berlin.

"PROPORTION IN PRACTICE."

Sir,—All controversialists on the subject of proportion in architecture will, I believe, concur in the profound conclusion arrived at by the writer of the article with the above heading, in last week's *Builder*, viz., that the parties to the controversy "are likely to confront each other as advocates of these incompatible theses. On one part it will be maintained that the employment of a precise and systematic scheme of proportion would in no way assist,—in fact, would hamper,—the designer and so far be detrimental to beauty of design, and therefore could not have been an instrument of such masters of design as the great Greek architects. On the other part we should hear,—As it can be positively made out that the Greeks of the best time did employ a scheme of proportion in the final adjustment and scrupulously exact execution of their designs, the presumption from their success is decidedly in favour of the importance of such an instrument, if we moderns can only recover and master it."

Now, although all controversialists concur in the foregoing conclusions, they have long since expressed them with far less circumlocution, and simply thus,—"either there is a science of architectural proportion, or there is not." Just so; the writer referred to, therefore, only lands us at the old starting-point, whereas if he really meant to lend a helping hand in the discussion, he should have pointed out to what absurd admissions the hypothesis that there is not a science of proportion commits those who may support it. The general conclusion of the scientists of this scientific age is that law reigns throughout the empire of Nature, but on the opposite hypothesis, architecture claims exemption from law. Now, if architects were not bound by law in their work they might do just what they please, as Sir Edmund Beckett affirms they do. No law, no responsibility, there would be neither right nor wrong. Who, then, but atheists with respect to æsthetics, nay, with respect to all law and order, could hold with such an hypothesis? "Order," it has been said, "is Heaven's first law,"—proportion to purpose is the characteristic of the divine handiwork of the Great Architect. Shall, then, mundane architects declare themselves independent of all rule and governance but their own whims? Sir Joshua Reynolds, some century since, had the acumen to perceive that "everything which is wrought with certainty is wrought upon some principle," and, again, "every object which pleases must give pleasure upon some certain principles." Colour is a far more subtle consideration than that of architectural proportion, for colour can only be measured by sense, whereas architectural proportion can be measured to a tittle by mechanical means. But if the possibility of a science of proportion be admitted, I cannot agree with the writer of the article aforesaid, that no theorist who is sufficiently sober-minded to be worth attention "would insist on science doing more than to help the architect to the leading dimensions of a composition, and that to imagine it would do more than this would be preposterous." Why preposterous? Is there the slightest evidence that law does not reign in the minutest, as well as in the most colossal aspects of nature, with respect to microscopic existence infinitesimal as compared with the least of architectural features? The minutest atom of matter is as amenable to the law of greatest universality, the law of gravitation, as the great globe itself. This attempt to claim exemption from law is but a symptom of the writhing of human pride, which would take all merit to itself; which would fain deny that excellence is but a symbol of faithful stewardship, of a right utilisation of means; and which would declare the dictum of the great poet, that Nature lends no scruple of her excellence, but that, at the same time, she claims both thanks and use, to be false sentiment, mere affectation. It is repugnant to the human microcosm to be compelled to admit that art when at its best is most completely in conformity with law; nevertheless, this is both the humiliating and the exalting truth. The whole weight of evidence, as well as the leaning of science, is in favour of there being a science of proportion in architecture. Every opportunity, therefore, should be taken to discountenance that false and vulgar opinion, that rules are the fetters of genius; they are fetters only to men of no genius.

To assume that "the proportions which are

established between the notes of the accepted musical scale are not in the main arbitrary, and might not have been very different indeed," is but to assume that music is not yet established on its true basis. But supposing that the present musical scale has been arbitrarily adopted, we see that law reigns even in the second nature of use, that there is a science even in custom, a method even in musical madness, which can be taught and can be acted on.

It may be shown, too, that the writer referred to is not at all justified in asserting that, "it seems premature to expect that we are very close to the end of our journey" as regards the science of proportion, for he could not conscientiously say this if he himself knew the science; for he would know that it had been attained. If, however, he does not know the science himself, and although he may be far off from it, he is clearly not in a position to affirm that we are not close to the end of our journey, not knowing himself the whereabouts of what is sought. W. Cave Thomas.

EMPLOYERS AND EMPLOYED.

Sir,—As the relations of masters and men have been much discussed lately in the press, and as your readers are naturally anxious to have facts rather than opinions laid before them, and as many of the assertions I have seen made are not in accordance with my own experience, will you allow me to give them the results of twenty-three years' trading, for nearly the whole time the sole member of a well-known joinery and (latterly) building firm, from which I am now partially retiring?

First as to trade-unions. I have never found any inconvenience from them, and the workmen would be very foolish to give them up. They have a perfect right to combine for their own advancement; it is simply the old motto, "Unity is strength," put into practice.

Then as to strikes. I have never had one. I read about them in the papers, and that is all I know about them. With the public clamouring for cheap work, and the workmen struggling for an improved position, strikes would seem the natural result; but when the matter can be discussed early it is compromise *versus* war, and strikes can generally be avoided.

Then, as to the honesty, intelligence, sobriety, and industry of the British workman as compared to past times and to Continental and other foreign workmen, my experience is at variance with the statements and assertions I see in the press from time to time.

I have never discharged a man for dishonesty; and I have no occasion, and never had, to doubt the perfect honesty of every man in my employ.

Then as to intelligence, the state of ignorance in which the present generation of workmen were brought up was enough to damp the ardour of the brightest men. This was not the fault of the workmen: the wonder is they have succeeded so well as they have.

Sobriety and industry I bracket together. I have never seen a man on my works the worse for liquor, and I have never discharged a man for drunkenness; and as for industry, I do not suppose any body of men ever worked harder or did a fairer day's work than the British workman does at the present time.

Masters have said to me, "Why, when I was a workman I did twice as much work as any of my men do now." Well, it might be so, and the result was the workman became a master; but we cannot all be masters, and a man must have strength, skill, and intelligence far beyond the common to attain such results. Then as to British *versus* foreign skill. In the Paris Exhibition of 1878 there was, your readers will remember, an avenue called "The Street of Nations." This was a rare opportunity for comparing workmen of all nations,—all picked men working under similar conditions,—Italians, Swiss, Belgians, Frenchmen, Spaniards, Japanese, Chinese, and Norwegians, all working orderly side by side; and, as I had business in the building, I watched them daily with great interest. Every nation worked in its peculiar way. The Belgians handled their heavy marble-like stone as only Belgians can; the Italians discussed the details of their decoration, and often came in a body down from the scaffold and, at a little distance, discussed, in a most excited manner, the respective merits of their different embellishments as only a nation of born artists can. The Japanese, merry little fellows, if you stopped to look at them they would nod, and laugh, and chatter to each other most amusingly. As for our friends the Heathen Chinee, they were fine athletic fellows, with pigtails down to their heels, and their faces beaming with intelligence; they seemed to despise scaffolding and ladders, and clambered about with the skill of practised acrobats, and, with the funniest little tools slung over their shoulders,—more like children's toys than anything else,—they patiently chipped, chipped, chipped away by the hour.

Bring those men to London, and what would they be? The Belgian would make nothing of our softer stone,—even an English Portland-stone mason is of no use as a Bath-stone mason, and neither is of use as a Kentish rag or granite mason. If a master builder saw a dozen of his Italians standing on the other side of the street smoking cigarettes, and coolly discussing the merits of the work they had in hand, it would drive him crazy; and the Japanese or the Chinaman could no more wield the heavy tools with which the British workman earns his daily bread than he could fly in the air.

Those men, therefore, who talk about foreign labour driving British labour out of the market are at sea on the subject, and those masters who have tried the experiment are not likely to repeat it.

Then, as to capital, we are constantly told that capital will be drawn from the trade, and what will the masters do then? The fact is, the only capital worth a button is knowledge. If a master builder knows his business, and is energetic, he may succeed; if he does not, and his only recommendation is cash, he will most assuredly fail.

I have now said my say. I do not mean to state there are no workmen who are bad in every sense of the term,—the same might be said of all ranks of society; but that those men form the rule and not the exception, I deny. I have told you my experience, extending, as master and man, over thirty-seven years, and I do not believe it is exceptional, but that the experience of the bulk of the masters is the same as mine, and that the calumnious statements one reads from time to time in the press have only to be inquired into to be refuted.

W. H. Lascelles.

THE PERILS OF PLEASURE.

Sir,—Pleasure's gentle laxation of overstrung nerves is naturally courted by most brain-workers in this age of speed. If it can be safely procured, and rationally enjoyed, Pleasure is pleasure indeed, not only yielding the desired relaxation at the time, but also imparting pleasure in the day of its review. But if in the search for pleasure perils are encountered, it were better not sought; for of it then, however pure or laudable in itself, may be justly said, as of the pleasure on folly based,—

> "Pleasure known but by its wings,
> And remember'd by its stings."

Confined workers in towns long for a week of sand or beach, and sea; and, when occasion permits, they hie to a watering-place of more or less note, in the hope of health and pleasure. They get accommodated with apartments, with or without a scramble, and, tired with their day's outing, they go to bed. As soon as they have retired, their sitting-rooms are converted into bedrooms, sofas and chairs being populated with great dexterity. Often two or three groups of lodgers are stowed away in a house that usually sleeps the original family but comfortably or healthily. It is well that sea air conduces to sleep. A wakeful, wandering lodger might possibly be surprised to find his day apartment made a bedchamber for a pair or so, the said pair or so not proving the cleanest or the healthiest of the human race. Many persons quit their scenes of pleasure with the seeds of disease sown in their systems by the abuse of the lodging-house trade.

I thus prefer a trip across the water. Workmen wishing to see the wondrous art-metal work of generations past often visit the shrines of art to cultivate whilst they refresh their minds. If there be nobility in pleasure, surely this is it. Pleasure, to be worthy of the name, needs to be instructive. While it relaxes, it must also edify. They draw upon their savings and go; but to go, they must board a steamer. Steamers, however, are not always admirable for their sanitary provisions. A friend of the writer went with his wife, a few weeks back, to revel in a cathedral of the hoary past and a noble city's mine of wealth. Their compartment was near a closet, and so strong was the smell that the lady passenger was made thoroughly ill. Better amid the city's sights and wonders, she became worse when shipboard was reached and the stench again encountered; and, on reaching home, she was struck down with a bad attack of typhoid fever. Fortunately life has been spared, but at a great cost of anxiety and weary watching, to say of nothing else, for one who sought to brace mind and body in the contemplation of things exalting. Pleasure can hardly be said to have resulted in refreshing in this case.

The doctor in attendance said he had recently met a friend who had taken a holiday trip to the same place and in the same steamer, and, noticing a difference in appearance, he inquired the reason. It was the same story. Typhoid fever arising from the closet's stench. Sanitary science should surely be able to check a stench in a floating closet, and so lessen the perils of the pleasure of art. T. B.

BUILDING PATENT RECORD.*

APPLICATIONS FOR LETTERS PATENT.

4,873. G. Hurdle, Southampton. Opening and closing window sashes, &c. Oct. 7, 1882.

4,811. A. J. Boult, London. Door stops or checks. (Com. by G. R. Elliott, Boston, and J. M. Winslow and T. E. Clary, Norwood, U.S.A.) Oct. 10, 1882.

4,839. A. J. Boult, London. Sash balances. (Com. by C. E. Bogle, Milton, U.S.A.) Oct. 11, 1882.

4,842, F. Garon, Southend. Locks or door-fastenings. Oct. 11, 1882.

4,850. W. Teaque, Illogan. Apparatus for ventilating purposes. Oct. 12, 1882.

NOTICES TO PROCEED

have been given by the following applicants on the dates named:—

October 10, 1882.

2,656. J. Harris, London. Means for holding up windows. June 6, 1882.

2,834. A. M. Clark, London. Water-closets, &c. (Com. by J. J. B. Frey, New York, U.S.A.) June 15, 1882.

3,688. W. Thompson, Shaw. Door knobs. Aug. 2, 1882.

3,969. J. Chaffin, Bath. Means of glazing greenhouses, conservatories, &c. Aug. 19, 1882.

ABRIDGMENTS OF SPECIFICATIONS

Published during the Week ending October 14, 1882.

1,019. C. J. Mountford, Birmingham. Fire-resisting bricks and blocks. March 3, 1882. Price 2d.

The bricks are made of asbestos and silicate of soda or potash with fire-clay. These materials are ground and mixed, then moulded and burned in a kiln. (*Pro. Pro.*)

1,021. L. Lenzberg, London. Door rods and springs. March 3, 1882. Price 2d.

The rod has a spring joint on that side which is connected to the bracket on the hinge side of the door, so adapted that it tends to close the door when it is opened. A spring bolt operates in slots or holes in the joint to fix it and allow the door to stay open. (*Pro. Pro.*)

1,039. G. Gore, Balsall Heath, and W. Morris, Blackheath. Stoves and grates. March 3, 1882. Price 2d.

The coal is supplied to the bottom of the grate from a hopper. (*Pro. Pro.*)

1,047. S. A. Clark, Croydon. Fastenings for window-sashes. March 4, 1882. Price 2d.

On the stiles of the lower sash are two vertical axes, the upper ends of which force bolts above the meeting-rails which shoot into holes on the upper sash and secure the window. (*Pro. Pro.*)

1,065. J. Wetherilt, London. Blinds or screens for windows. March 6, 1882. Price 6d.

These are enclosed in frames which are hinged at their lower parts so that the blind can be inclined. They are secured in this position by rods with hooked ends taking over studs on the sides of the frame.

1,620. P. M. Justice, London. Improved plaster for casts, mouldings, &c. (Com. by M. B. Church, Grand Rapide, Canada.) April 4, 1882. Price 4d.

This is composed of pulverised calcined gypsum, glue, and sulphate of zinc, and is very suitable for walls, &c.

WOOD AND IRON.

Sir,—Can any of your readers inform me of a method for working out the breaking strains of wood and ironwork without the use of algebra, and the best book (if any) on the subject? R. H. Y.

* Compiled by Hart & Co., Patent Agents, 28, New Bridge-street.

GLASGOW INSTITUTE OF ARCHITECTS.

The annual meeting of this Institute was held on Tuesday last, the President, Mr. John Honeyman, in the chair.

The Secretary (Mr. Wm. MacLean) read the annual report. The total number of members now upon the roll is forty-nine; and, while some further accession is desirable, the council consider it to be a fair subject for congratulation that, considering the necessary qualifications, so large a proportion of the profession in this part of the country has joined the Institute. The attention of the council had been given to the revision of the regulations for the measurement of mason work. They think it desirable that, before any decision is come to, the matter should be brought under the notice of the Edinburgh Architectural Association and the Edinburgh Measurers, with the view of introducing one uniform system of measuring mason work in all parts of Scotland. The New Municipal Buildings competition also occupied the attention of the council. The letter of the conditions was barely fulfilled by the exhibition of the ten designs submitted in the final stage for six days only in most unsuitable rooms, and the representations of the council as to the general desire of competitors and others that as many of the designs as could be obtained should be publicly exhibited were entirely unavailing. The Town Council unanimously refused to have anything to do with such an exhibition. In these circumstances, and having ascertained that it was generally desired by the competitors and by many members of the profession, the Institute decided to undertake the management and pecuniary responsibilities of the exhibition. The exhibition was accordingly held in the upper rooms of the Corporation Galleries (the use of which was kindly granted by the Town Council for the occasion), and was open to the public free of charge from September 2nd to September 14th. It proved both interesting and instructive, and was visited by over 4,000 persons. Fifty-six designs were exhibited, and these were illustrated by about 400 drawings.

The President, in moving the adoption of the report, referred to the proposal of the Gas Committee to debar all and sundry from supplying electricity, in order that they might secure a monopoly of that production themselves. Many of them must know that they were already reaping the fruits of this short-sighted reactionary policy, and that there was more difficulty in getting work of the kind done there than in any large city in the kingdom; but then, while five firms wish to commence work there, the Town Clerk has been instructed to inform them that the committee "cannot consent to any licences or provisional orders being granted to any parties empowering them to provide or supply electric light within the city." He could not say more on the subject then, but he would express his own personal conviction that, if the citizens allowed the Corporation to act on the recommendation of the Gas Committee, they would, ere long, heartily repent of it.

A meeting of the newly-elected council took place immediately after the general meeting of the Institute. Mr. James Thomson was elected president; Mr. David Thomson, vice-president; Mr. John Burnet, auditor; Mr. William Landless, treasurer; Mr. William MacLean, secretary.

STEAM HEATING OF TOWNS IN AMERICA.

Amongst the places in the United States where the system of supplying heat to houses through tubes from a common centre has been introduced, is the little town of Lynn, in Massachusetts. The project has been for a short time in actual operation, but through a series of explosions it seems that in the place in question, at least, the system is likely to be abandoned. On the 14th of August one of the larger steam-pipes, laid down under the street, exploded, causing a considerable amount of damage to the buildings in the immediate vicinity. This is the third explosion of the kind since the Lynn Steam Heating Company started operations. Owing to the fact that the cause of these alarming occurrences is unknown and no explanation could be afforded on the subject by those immediately concerned, the authorities of the township of Lynn have given notice to the company to remove their pipes and tubes from the streets without delay. This, however, they have not yet done, but, on the other hand, a reward of 1,000 dollars has been offered in the name of the company for the discovery of the person or persons who caused the last explosion. Notwithstanding this handsome offer, it is not expected that it will lead to any result, for it is said that the company themselves do not really believe that the explosions were caused by foul play. The real cause is believed to be attributable to the thinness and weakness of the pipes and tubes employed in the entire installation of the heating system, and this unwise economy in the original outlay appears likely to put a complete stop to an interesting, but as yet very imperfectly-tested experiment.

SEWER VENTILATION.

Sir,—Equally with your unfortunate correspondent, I am at a loss to understand in what lies the science of an ordinary sewerage system. My house drains into an earthenware pipe-sewer, in which, at intervals, there are fixed ventilating-shafts; but every time there is a heavy rainfall the sewer-gas is driven into my house through the scientific (?) traps, which are oftener than otherwise dry. I suspect there is a stoppage in the main sewer, but, of course, one cannot be sure as to the exact position, as we cannot examine these scientific sewers, and, for aught I know, the private connexion to my house may be gradually choking up. I should be glad if some of your enlightened readers would explain wherein lies the scientific principle of the system of sewerage, which appears to my unscientific mind to be opposed to the dictates of good sense.

Another Poor Buffer.

NECESSITY OF GIVING NOTICE TO DISTRICT SURVEYORS.

Mr. W. Balcock, of 119, Well-street, Camberwell, builder, was summoned before Mr. Ellison at the Lambeth Police Court, by Mr. Banister Fletcher, District Surveyor, for neglect in giving notice for work which had been executed at 182, Hill-street, Walworth. The work done consisted of a joist being inserted in a 9-in. party-wall for the purpose of supporting joists which had become decayed at the ends. The defence set up was that the work done was only repairing, and being so small it did not come within the meaning of the Act. The district surveyor referred the magistrate to sec. 15, sub-sec. 2, of the Building Act, which says that the ends of any beam or joist shall be at the least 4½ in. distant from the centre line of the party-wall.

The magistrate said the work done, although perhaps small, was a repair which came under the supervision of the District Surveyor, and therefore required the defendant to give the proper notice, and to pay costs.

The notice was then given and the money paid.

PROVINCIAL NEWS.

Newcastle-on-Tyne. — The new free library erected in Bridge-street, Newcastle, partly on the site of the Carliol Tower, at a cost of about 20,000*l.*, has been opened. The new building has been erected from plans by Mr. A. M. Fowler, until lately borough engineer of Newcastle. The design of the first story of the front elevation is of the Doric, and that of the remaining two stories of the Corinthian order of architecture. The centre portion of the building is 107 ft. 6 in. in length, and as there is at each end of this bold projecting wings 30 ft. wide, the total length of the exterior is 167 ft. 6 in. The principal entrance, with seven steps, is placed in the centre, through a portico 30 ft. long by 8 ft. wide. This is ornamented with massive stone columns supporting an entablature from which springs a continuous row of balustrades running the entire length of the front. The spandrel panels of the door at the principal entrance bear groups of carved figures representative respectively of literature and engineering; while on the keystone between, a bust of George Stephenson is brought out in bold relief. Niches, which will no doubt be filled at some future time, are provided at each side of the spandrels, and in close proximity to these are busts of Lord Collingwood and John Bewick. The whole of the front is surmounted by a massive pediment, supported by six caryatides, in the centre of which a carved date-stone is placed. Mr. Burn, of Newcastle, is the sculptor of the busts and carved work on the first and second stories of the building, and Mr. Pringle, sculptor, has executed the figures at the top. The bays at each end of the building are furnished with a medallion cornice, surrounded by a balustrade, and the roof is semicircular in form. Set back a little from the main thoroughfare, the public library is protected by a dwarf wall, surmounted by ornamental railings, with lamps placed at intervals. As to the interior, the basement is provided with a workroom, in which books are received, checked off with the invoices, collected, stamped, and labelled, after which they are sent to their respective departments in the library. Throughout the entire building open fireplaces have been dispensed with, and hot-water pipes employed for heating purposes. Passing through the portico from the street into the main building, the visitor finds himself in a spacious and lofty vestibule, 43 ft. long by 20 ft. wide, at the end of which is a beautiful marble group, by Lough, of the Archangel Michael subduing Satan. For this and other pieces of statuary by the same eminent sculptor the city is indebted to the generosity of the donor, Sir Matthew White Ridley, bart., M.P. The vestibule is supported by pillars of elegant design, and is divided from the main doors by a handsome plate-glass screen, with floriated ornaments and the city arms in bold relief, the entrance-doors bearing designs of the old castle, that at the left of the entrance being a representation of the Carliol Tower. To the left of the vestibule is a new lending library, 61 ft. long by 22 ft. broad, and it is connected with the Mechanics' Institute portion, which has been used as a lending library for the last two years. It was originally intended that the Mechanics' Institute portion should be the reference library, but so successful has been the lending library during the two years that it has been opened, and the demands made upon it have been so enormous, that the committee felt themselves obliged to abandon their original design, and to throw that room as well as the new lending library into one. The new portion of the lending library is so arranged as to store 25,000 volumes. This is accomplished by carrying the wall-cases on two sides of the room to a height of 13 ft., and by arranging separate double cases to form alcoves, projecting from the north and south walls. These are enclosed within a counter, which supports the library indicator. Five separate portions of the stock are placed within 3 ft. of the right or left of the issue desks. The connexion with the old lending library is effected by an elliptical arch cut through the main wall. The two rooms combined provide accommodation for at least 60,000 volumes. In the old room, to which there is a special entrance, the juvenile library is stored. In addition to the juvenile department, between 4,000 and 5,000 volumes of the publications of the Commissioners of Patents and Inventions will also be placed there. The committee have also temporarily stored in this room about 5,000 volumes acquired towards the reference library. A wide staircase leads to the reference library, which was at first intended as an art-gallery. A large coloured-glass window, of geometrical design, lights the staircase, in addition to a light from the roof. A statue of Edgar, by Lough, is placed on the landing, which is to serve for conversational purposes, so as not to disturb the comfort of the readers in the reference library. The reference library, which is 132 ft. by 41 ft., is divided by an entablature supported on Corinthian columns, and is lighted on the south side. Four life-size figures, in marble, by Lough, have been placed here, the gift of Sir Matthew White Ridley, bart., M.P. An American revolving book-case is to be provided, upon which, when ordered, all the works in the reference library upon any special subject may be placed, to be within reach of the reader at will. The book-case will hold about 200 volumes of various sizes, and when wheeled to the side of the reader, he has the advantage of a library specially devoted to the subject he may be investigating within his reach. This book-case does away with the necessity of littering the table with books, as each volume can be easily replaced until it is further wanted. The cost of the building and site has been about 20,000*l.*

Workington.—An energetic start has been made in the construction of the new works at Workington for Messrs. Cammell & Co., of Dronfield. When amalgamated with the existing works, the whole will cover eighty-three acres of land. The Derwent Works, which were purchased by Messrs. Cammell & Co. for 105,000*l.*, consist of three large blast furnaces, with all the necessary adjuncts. According to the plans agreed upon, a new chimney and a large shed for the purpose of placing therein six Bessemer converters in three pits, are to be built, while large boilers and engines will be laid down capable of turning out an average of 3,000 tons of steel rails per week. Several new furnaces will be erected, and all the improvements that modern science has invented will be adopted in the construction

of the works. Ample engine-power will also be provided. It is the intention of the company to make the new mills of larger capacity than the present Dronfield works, so as to meet the contemplated extensive weekly out-put of steel rails. The cost of the additions are variously estimated at from 40,000*l.* to 60,000*l.*, and the contractor (Mr. R. H. Hodgson, Workington) has undertaken to have the whole work completed by March next. While those additions are being made, the plant at Dronfield will be removed to Workington. The cost of removal is estimated at 34,000*l.* Workington is already feeling the effects of the new enterprise in the extensive building operations prosecuted on all sides. "Dronfield" streets and "Dronfield" terraces are springing up all round, and even shops with all manner of designations to include the word "Dronfield" or "Sheffield" are being opened. It is expected that a population of between 2,000 and 3,000 will come to Cumberland with the new works, and it is estimated that at least 500 more houses will be required at Workington to provide accommodation for the great influx of workpeople.

Crewkerne.—Advantage has been taken of the holidays by the Governors of the Crewkerne Grammar School to complete the main entrance, which, when the new building was opened recently, was left in block for future attention. The whole of the façade of the building is now finished. The re-building of the school was talked of for years, and ultimately the designs of Messrs. Giles & Gough, architects, of Craven-street, London, were accepted. The structure is built of local stone, with Ham-hill stone dressings, and the style of architecture is of the Domesticated fifteenth-century type. The carved work about and pertaining to the entrance is now completed. It has been carried out by Mr. Harry Hems, of Exeter, from the architect's designs, and from ancient shields and crests provided him. We gave a view and plans of the new building in our thirty-ninth volume (July to December, 1880), pp. 264, 266.

HAMMERSMITH BRIDGE.

The Metropolitan Board of Works has recognised the hardships that would be inflicted by the closing of this bridge for two years without erecting a temporary bridge, for at the last meeting of the Board the Works Committee presented a report, in which they said :—

"The course which suggests itself to your committee as the one most likely to meet all the requirements is the construction of a temporary bridge to be used for the accommodation of the traffic during such time as it may be necessary to close the existing bridge. As regards the legal questions to be involved in the reference, your committee have to state that your solicitor has, by their direction, obtained the opinion of counsel as to the power of the Board to incur expenditure in making temporary provision for the traffic, which opinion is to the effect, although some doubt is expressed upon the point, that the Board could, assuming the contract were limited to the discharge of the obligation to maintain and repair the bridge, include therein a provision to work a ferry or erect a temporary bridge. A further question is, however, here involved, and that is whether the alterations proposed by the Board can be held to be within the powers conferred upon the Board by the Toll Bridges Act of 1877 with regard to the maintenance and repair of the bridge. Upon this point the Board are advised, in order that the whole matter may be freed from doubt and uncertainty, that it is desirable, before proceeding with the works included in the plans as now proposed, that they should obtain further Parliamentary powers, not only for constructing a temporary bridge as advised by your committee, but also to execute the desired works of alteration to the existing structure."

The Committee recommended action in accordance with their report, which was adopted.

COMPENSATION CASE.

FORD *v.* THE METROPOLITAN BOARD OF WORKS.

This was a compensation claim by Mrs. Ford, as widow and executrix of Henry Russell Ford, of The Ship public-house, 66, Gray's-inn-lane, opposite the side entrance of Gray's-inn, required for the Metropolitan street improvements. The claim was for between 2,000*l.* and 3,000*l.*, and on the other side it was alleged that the temperance movement had depreciated public-house property.

The premises belonged to the Cannon Brewery, and when leased to the late occupier, Ford, in 1879, the Board of Works had power to make the improvements in the neighbourhood, but made no claim when applied to, and notice to treat was given last December. The lease was at 130*l.* a year, with an agreement that if Ford dealt with the Cannon Brewery, the rent was to be only 65*l.* He let off the back premises for 30*l.*, and furnished apartments to about 60*l.* The profits were alleged to be net nearly 200*l.* a year, and twenty-seven years of the lease were unexpired. The premium was put at 1,500*l.*, which had not been paid, nor the interest. The claim by the evidence was 2,222*l.* On the part of Mrs. Ford, a claim was made for six years' profits as goodwill. On the part of the Board, the profits were said to be about 110*l.* a year, and the lease of no value without the licence, which, of the house in question, was worth about 500*l.*, and the fixtures and furniture was agreed upon at 127*l.*, and that was affirmed to be the full value. Mr. Ford had paid 250*l.* when he took the house.

Mr. Under-Sheriff Burchell put before the jury the several items of the claim and the evidence on both sides. The jury would consider the net profits, and fix what they thought proper. One side said six years was the usual, and the other side three or four years, for a goodwill.

The jury were in consultation three-quarters of an hour. They assessed the leasehold, interest, and goodwill at 700*l.*, and the fixtures and furniture at 127*l.*, making a total of 827*l.*

CHURCH-BUILDING NEWS.

Haggerston (*London*). — The spire of the Church of St. Paul, Haggerston, having been completed, the vicar, the Rev. S. J. Stone, on the 6th inst. mounted the scaffolding to a height of 103 ft., and, attired in his clerical and academic garb, placed in position the finial cross, after which some brief prayers appropriate to the occasion were said by the vicar. The congregation in the streets below, including 700 school-children, then sang "The Church's one Foundation," and the vicar from his exalted position pronounced the benediction.

Hoggeston.—The Bishop of Oxford has re-opened the Church of SS. Peter and Paul, Hoggeston (which name is said to be a contraction for Holy Cross Town, indicating the supposed original dedication). The building is one of considerable interest; and, after repeated attempts, since the preparation of the first plans eight years ago, and various proposals for reducing the width of the aisles, or for removing one or both of them altogether, or for an entire rebuilding on a smaller scale, on the score of cost and of the church being unnecessarily large for the wants of the parish, the original plans for reinstatement have been carried out in their entirety. The chancel has been restored at the cost of the rector, the Rev. C. H. Hole, and the remainder almost wholly through the exertions of two of the principal farmers, Mr. Baylis and Mr. Morris. The building has become latterly too insecure for use, and had been closed. The chancel, which had been rebuilt and shortened nearly to half its length, has been restored to its original length, and fitted with stalls in carved oak. The rest of the church has had new roofs, a very few of the old timbers being capable of re-use. Great effect has been obtained by the use of Northamptonshire orange-brown sandstone instead of the customary Bath. The work has been carried out by Mr. Green, of Wellingborough, under the direction of the architect, Mr. William White, F.S.A.

Whitstone.—The parish church of Whitstone, North Cornwall, has been re-opened after restoration. A rood-screen once stretched across the nave and aisles, but of this there are no remains, though certain projections on the walls show its position. Dividing the aisles from the nave are granite arcades, while light is given by arch-headed windows. In 1796 high straight-backed deal pews were placed in the body of the church and a singing-gallery erected at the western end of the nave. The foundation-stone of the south-east corner of the tower is an irregular block of white spar, and a tradition arose that the pixies placed it there, and that this stone was the origin of the name "Whitestone," which the first holder of the manor assumed, and afterwards gave to his parish. The church has for a great many years been in a most dilapidated state, and after the snow-storms of recent winters, its defects became so disagreeably apparent that any further delay of restoration could not be entertained. The churchwardens commissioned Mr. Hooper, of Hatherleigh, to prepare plans, and subsequently entered into a contract for the necessary work with Mr. Wiffen, of Holsworthy. The aim has been to retain the characteristics of the old church, and, where possible, the old material has been used. The old Cornish barrel-roof has been rebuilt, the carved bosses of the old roof being still retained. All the new woodwork is carved after patterns that remained in the old edifice, the work being performed by Mr. Northcott. The chancel has been extended, and a new porch added, and the church has been reseated and floored.

Chiswick.—Chiswick Church has been closed for restoration at the cost of Mr. Henry Smith, churchwarden. This restoration, we are told, does not mean the complete removal of old parts. Those marks of antiquity which are worthy of preservation will remain intact, such as the tower, which, in 1425, was erected by the Rev. William Bredale. The chancel will be widened 10 ft. and lengthened 10 ft. The north and south aisles will be re-erected in a later style of architecture to show that they are additions to the original structure. The whole of the new part of the church will be of Kentish rag, so as to harmonise with the old tower. On the old wall of Chiswick Churchyard there is a curiously-worded tablet, which records that Lord Russel in 1632 built the wall to preserve God's acre from "violateing of swine and other profanations." The antiquity of Chiswick Church is evident from the fact that in a grant of land by Edward the Confessor, mention is made of a previous charter of A.D. 866, which included the church and churchyard of the parish of Chiswick. So many additions have been made to the church in later years that the trained eye only can distinguish between the very ancient and the more modern parts. Mr. H. Smith, who provided the church with an organ-chamber, new pulpit, and a lectern some time ago, will spend 10,000*l.* on the building. The work of restoration is being carried out from designs by Mr. J. L. Pearson, R.A.

Clerkenwell.—On the 13th inst. Clerkenwell parish church, which has been in course of restoration internally, and of repair externally, was reopened with ceremonies in which the Lord Mayor and other civic dignitaries participated. The alterations in the interior of the church, which abuts on Clerkenwell-green, are so radical as to amount to a transformation. All the old-fashioned high pews have been cleared out and modern sittings in oak substituted. The upper galleries have been shortened, and in place of the old staircases leading to them, which used to block the windows, new staircases have been erected on the west side of the building. The side windows, of tinted cathedral glass, are all new; while the two windows at the east end of the church, and on which are portrayed the beginning and completion of Solomon's Temple, are the gift of the Crusaders' Lodge of Freemasons. The brass lectern was given by the Clerkenwell Lodge of the same craft. New heating-apparatus has been fitted up in the vaults, and the floor of the church is paved with wooden blocks. The exterior of the edifice has also undergone very substantial repairs. The cost of the restoration has been about 3,300*l.* The work was carried out by Messrs. Dove Brothers, under Mr. Blomfield and Mr. Paull as architects.

ROMAN CATHOLIC CHURCH-BUILDING NEWS.

Springburn (*Glasgow*). — The new Roman Catholic Church of St. Aloysius at Springburn has been opened for worship. Designed by Messrs. Bruce & Sturrock, architects, Glasgow, the edifice occupies the site of the old chapel. It is divided, internally, into three roomy aisles separated by arcades consisting of richly-moulded arches supported on clustered columns with moulded caps. On the street front the aisles are masked by short transepts, and one of these contains the organ-chamber and baptistery, while the other holds the stair to the choir gallery. Piercing the street gable of the centre aisle is a large three-light lancet window, flanked by recessed niches, and over it a stone cross rises to the height of 60 ft. above the road. The intersection of the transepts and main roof is emphasised by a pinnacled flêche terminated by a cross, the whole reaching to a height of 100 ft. At the end of the central aisle is the sanctuary with its high altar, while the sacristy is on the west, and the Lady Chapel and the altar on the east. The building, which provides accommodation for about 1,000 persons, has cost some 3,000*l.*

Loftus-in-Cleveland.—A new Roman Catholic Church is being erected here. The building, which is to cost about 600*l.*, will be dedicated to St. Joseph, and will, when completed, accommodate 300 worshippers. The style of architecture is Tudor, the materials being brick, with stone facings. The roof, of open timber, will be stained and varnished. The building will consist of nave, sanctuary, and sacristy. Mr. Martin Carr, of Queen's-terrace, Middlesbrough, is the architect; and Mr. Dickenson, of Saltburn, is the contractor.

Shefford.—On the 4th inst. (the seventh century of the birth of St. Francis of Assisi), the foundation-stone of the new church to be dedicated in honour of that saint at Shefford, Beds., was laid by the Rev. Dr. Riddle, R.C. Bishop of Northampton. The church is to serve for the ordinary parochial services as well as the Church of the Seminary of the diocese for ecclesiastical students and of St. Francis's Home for Boys. The architect is Mr. S. J. Nicholl, of 1, Caversham-road.

STAINED GLASS.

London.—The west window of St. Paul's Church, Camden-square, has been filled in with stained glass by Mr. James Barton, of Camden-road, in memory of his sisters, Mary and Louisa Barton. The style of the glass is similar to that which prevailed in the fourteenth century, and is in accordance with old examples which are still to be found in Wells Cathedral. The subjects illustrated are selected from the life of St. Paul. The chief figure is that of St. Paul himself, and on either side of him and in the three panels below are the following incidents:—Saul witnessing the Stoning of St. Stephen; the Conversion of Saul; St. Paul preaching at Athens; St. Paul before the Council; and St. Paul's Martyrdom. In the upper part of the window is (in the apex) a cross borne by two angels; in other openings are angels bearing scrolls inscribed with texts. The window has been designed and executed by Messrs. Lavers, Westlake, & Co., of Endell-street, Bloomsbury. In addition, the new approach and west door entrance has been made, the organ removed and restored, and six windows filled in with stained glass of mosaic design (by Messrs. Bell & Co., Kentish-town-road), at the entire cost of Mr. James Barton.

Winchester.—A window in the south aisle of the choir of Winchester Cathedral has been filled with stained glass, in memory of Lieut.-Col. Collins, of the 60th Rifles, who died in India, after going through the Afghan campaign. The window is the work of Messrs. Powell, of Whitefriars, London. The window is a four-light transom window, with cinquefoil-headed lights, and the arch of the window is made up with fifteen tracery lights of varied size and form. These are filled with figures of angels, double-winged, and resting on wheels, like St. Catherine's, an ornament taken from some old glass here, and also with cherubim. The upper lights have the four archangels, Michael, Gabriel, Uriel, and Raphael, and the lower openings have SS. Peter, James, John, and Paul, and these are represented with their proper traditional emblems.

SCHOOL BOARD SCHOOLS.

Felling.—Three groups of schools are in course of erection to meet the deficiency of school accommodation in the Heworth School Board District. Two have been completed, whilst the third, which is being erected at Windy Nook, will be completed in the course of a few months. The Felling Schools are arranged to accommodate 725 children. The building is in two stories, and the characteristic features of the interior are the large number of class-rooms provided, with the facilities that exist for easy and direct supervision by the heads of departments, and the means that are provided to enable all the children to approach and leave their several class-rooms without noise or disturbance to the rest of the scholars. Mr. G. Waddell, of Edinburgh, was the contractor for these schools, and the cost of their erection has been 3,461*l.*, or 5*l.* per scholar. The schools at the Felling Shore are for infants only, and the work has been well carried out by Mr. Alexander Thompson, contractor, of Gateshead. Messrs. Oliver & Leeson, of Newcastle-on-Tyne, are the architects for the three groups of schools.

London.—On the 6th inst. a new school, erected by the School Board for London, in Mina-road, Old Kent-road, was opened. This is the 260th new school erected by the Board, and its site occupies half an acre. The building has accommodation for 1,398 children, namely,—420 boys, 420 girls, and 538 infants. The ground cost 6,505*l.*, and the legal expenses necessary in obtaining it, 461*l.* 18s. 11d.; its total cost being therefore 6,706*l.* 18s. 11d. This gives a total cost per head on the site of 4*l.* 16s. The building of the school cost 13,130*l.*, which, with the architect's commission of 393*l.* 18s., makes a total of 13,523*l.* 18s., thus bringing up the cost per head to 9*l.* 13s. 5d. This makes the gross total expenditure 20,230*l.* 16s. 11d., and the total cost per head 14*l.* 9s. 5d.

Miscellanea.

Metropolitan Drawing Classes.—On the 12th inst. the Queen's prizes and honour certificates gained during the past year by the students of the various metropolitan drawing classes in connexion with the Science and Art Department at South Kensington were presented to the winners, in the Guildhall, by the Baroness Burdett-Coutts, in the presence of a large gathering of spectators. The chair was taken by the Lord Mayor. Mr. W. Busbridge, the conductor of the classes, read the annual report, which stated that during the past year classes had been conducted in twenty metropolitan centres, consisting in the aggregate of 960 students. In the Government examination of May last twelve passed in honours, two obtained Whitworth scholarships of 150*l.* each, 203 first class Queen's Prizes were gained, and 459 obtained certificates. The Baroness Burdett-Coutts having presented the prizes, gave an address of some length, in which she dealt with the interest taken by the City Guilds in the efforts made by those outside the walls in the promotion of the trade and commerce with which the City was so closely allied. They had a forcible reminder of the immense benefit the country derived through such an association as theirs in the gathering that night. It was not merely the technical advantage to be derived from the course of instruction, nor the material advantages accruing, that they had to consider, but rather the indirect results of the industry, perseverance, and self-restraint that must have been exercised by all attending the classes, all of which tended to the formation of habits equally beneficent in private as in public life. There seemed to her no method of fostering among the teeming population of the metropolis those habits of mind leading to the promotion of industry and reflection so likely to be attended with success as the agency of these classes.

Furniture.—Under the management of the City and Guilds of London Institute, at the Technical College, Finsbury, a course of about forty lectures by Mr. A. F. Brophy, will be given, commencing Wednesday, October 18th, at Eight o'clock p.m. precisely, and to be continued every Wednesday throughout the Session, on "Furniture, from the earliest times to the English Renaissance." The lectures will be illustrated by sketches of furniture, showing construction and details of mouldings in the different styles, so as to enable a cabinet-maker to design and execute work in any of these styles with correct feeling. They will treat of ancient furniture, furniture of the Middle Ages, and modern furniture.

Nottingham Government School of Art, 1882-1883.—A Travelling Studentship, value 25*l.*, is offered by a member of the committee of this school, Mr. S. Dutton Walker, F.S.A., for the encouragement of the study of architecture. The object of the scholarship is to assist the successful competitor to visit the Continent for the purposes of study. To insure this, the amount will be paid to him upon signing an undertaking to carry out the intention of the donor, and to submit the works executed during the tour to the committee upon his return.

Female School of Art.—The annual exhibition of students' drawings which received the Queen's Gold Medal and Scholarship, Baroness Burdett-Coutts's scholarship, and other scholarships and medals, takes place this Friday, the 20th, from 9.30 a.m. to 4 p.m., and from 7 p.m. to 9 p.m., and on Saturday, the 21st, from 9.30 a.m. to 4 p.m.

The Streets of Paris.—The estimate for street repairs in Paris next year has just been submitted to the Municipal Council by the Prefect of the Seine, who asks for a sum of 407,000*l.* The total area of the streets and roadways paved with stone is given in the estimate as being 6,800,000 square yards. The expenditure upon this head is nearly half of the whole amount, each yard of paving costing nearly sixpence. The area of macadamised streets has been much reduced of late years, and is now not more than 2,000,000 square yards. The cost of repairing this for next year is estimated at 184,000*l.*, or 2s. per square yard, the materials employed being ordinary flints, and porphyrus stone from the department of Mayenne, this latter being only used in a few exceptional cases, as it costs a guinea per square yard. The area of streets paved with asphalte is 345,000 square yards, and the cost of repairs for next year is estimated at rather more than a shilling a yard, the work being executed by contract.

Loss of Life by Fire in European Cities. A committee appointed by the Brussels municipality to consider what means should be taken to diminish the risk from fires, has drawn up a table showing the proportionate number of victims to fire in fourteen great cities of Europe during the ten years from the 1st of January, 1869, to the 1st of January, 1879. From this it appears that by far the largest number of victims were in London, where the proportion was 8·3 per 100,000 inhabitants. Next comes Cologne, with 7·1 per 100,000; then Hanover, with 5·7. The greatest immunity was enjoyed by the people of Munich, where the proportion per 100,000 inhabitants only reached 0·4.

Exhibition of Works in Horn.—The exhibition opened at the Mansion House on Wednesday, under the auspices of the Worshipful Company of Turners, was a most interesting one, containing as it did numerous ancient specimens of work in horn, besides exemplifying the various uses to which that material is applied at the present time. The exhibition was avowedly promoted by the Company with the view of furthering the technical education of workmen engaged in the trade, and it is to be regretted that, as it closes this Friday (the 20th), any recommendation which we might give our readers to visit it would not come before them in time to be acted upon.

A Monument to Fielding. — Some time before his death Thackeray expressed the hope that a memorial of Fielding would be erected in Somerset, his native county. But though many years have passed since this wish was expressed, no effort has been made to carry it out. We learn, however, that Mr. Arthur Kinglake, a well-known west-country magistrate, and brother of "Eöthen," has been so far encouraged by promises of support as to commission Miss Margaret Thomas, of Hugh-street, Eccleston-square, who executed the marble bust of Charles Somerville, the sculptor, lately placed in the Taunton Shire-hall, to execute a memorial of the great novelist.

The Transmission of Electrical Force.—At the Electrical Exhibition which is being held at Munich some interesting experiments have been made by M. Marcel Desprez for transmitting electrical force. With two Gramme machines modified to the system of M. Desprez a half-horse motive power was carried a distance of about thirty-five miles, from Meisbach to the hall in which the exhibition is held in Munich. The communication was effected by means of a single telegraphic wire of the ordinary kind, supported upon wooden posts placed from point to point along the distance traversed.

Mahogany.—Some correspondents desire to know if mahogany is timber. Our reply is, "Yes." Gwilt defines timber as being all such wood as is suited for the purposes of building. In Jamaica and some other places mahogany is used for joists; it is also largely used in shipbuilding.

The Court Theatre.—Considerable structural alterations are being made, and a new porch erected, to this theatre, under the supervision of Mr. Alexander Peebles, architect, in order to satisfy the requirements of the Metropolitan Board of Works. The theatre will be re-opened during the current month.

Connaught Theatre. — This theatre has been sold, subject to the approval of the Court of Chancery, by Messrs. Thurgood & Martin, of Chancery-lane. The premises after decoration will be opened under the management of Mr. John Baum.

Destruction of Ingestre Hall by Fire.—Ingestre Hall, one of the seats of the Earl of Shrewsbury and Talbot, was burned to the ground on the morning of the 12th inst. It is situated about four miles from Stafford, in the midst of an extensive park. Since their marriage a few months ago the Earl and Countess of Shrewsbury have resided at Alton Towers, about twenty miles from Ingestre Hall, which was left in charge of servants. In anticipation of the return of the Earl and Countess to Ingestre, large fires were kept burning daily in most of the rooms to air them. On the night preceding the fire, one of the servants went through the house about ten o'clock and found everything safe. The first alarm was raised at a quarter-past five on the morning of the 12th, and by the time the engines arrived the hall was a mass of flames. Willing helpers rescued what they could in the shape of furniture, paintings, and other valuables. The whole of the state-room floor, which was of imposing proportions, fell through into the grand hall below, and the flames shot through the main entrance to the other side of the building. The historical paintings on the staircase were all destroyed. The total loss is estimated at 100,000*l*. It is believed that the fire originated from the ignition of a beam beneath one of the hearths,—a common occurrence.

Sad Fatality to a Builder.—A very distressing accident occurred at the new Naval Barracks, Keyham, Devonport, on the 12th inst. Whilst Mr. Matcham, the contractor for the works, was standing upon a scaffold superintending the operations, a labourer came up with a hod, when Mr. Matcham moved aside to let him pass, and in doing so slipped from the scaffold, and fell a height of about 25 ft., in his descent striking a girder, and thence being precipitated to the ground. He fell on his face, which was terribly disfigured. He was immediately removed to his office in an insensible condition, and subsequently muttered a few words, but never perfectly regained consciousness, and died about an hour and a half after the mishap. The deceased was a native of Dorchester, but settled in Plymouth thirty years ago. In the course of his career Mr. Matcham has carried out several important works, amongst them being the new Public Hall, Devonport; Col. Peard's mansion, in Cornwall; the Rougemont Hotel, at Exeter; Mr. Singer's mansion at Paignton; the Imperial Hotel, at Torquay; St. John's Church, Torquay; and the large goods station of the Great Western Railway, at Millbay. His personal qualities were such as to cause him to be widely esteemed. The coroner's jury returned a verdict of "Accidental death."

Sale of Land.—A freehold estate was offered by auction at the Mart last week by Messrs. Protheroe & Morris. The estate comprised four acres of freehold land, and was distinguished as Osborn's Nursery, Fulham. It was offered with a detached residence, seed-shop, and conservatory recently erected. The auctioneer opened the sale by remarking that the land was immediately ripe for building, and was specially the class of land that was going off well at the present time, and in dealing with the same there was no loss of interest on capital to be considered, there being no danger of the land hanging fire, as plenty of substantial builders would be ready to go on the land, which in the course of twelve months would probably be covered with shops and houses. The property was put in at 6,000*l*., and after twenty-two subsequent biddings had been made, the hammer fell at 10,000*l*., at which sum it was sold to the well-known firm of Messrs. Veitch & Son, of King's-road, Chelsea.

Christmas and New Year's Cards.—We have received from Messrs. Hildesheimer & Faulkner a selection from the large series of prize designs which they have now reproduced, and are offering to the trade, and very beautiful of their kind they are. The firm spent, it will be remembered, the sum of 5,000*l*. in prizes and purchases, and the complete collection now produced will, it is stated, consist of more than 250 series, and fifty series on satin. We should have been glad to see more figure subjects: the large proportion of those which have reached us are flowers and landscapes. Doubtless, however, Messrs. Hildesheimer & Faulkner know the taste of the public. Without attempting to make selections, we may fairly mention a number of flower designs by Mr. W. J. Muckley as being equal to anything of their kind that we have seen.

The Worcestershire Exhibition. — On Wednesday last the Worcestershire Exhibition of Arts and Industry was closed, with some ceremony, by Earl Beauchamp, Lord-Lieutenant of the county. The Mayor of Worcester (Mr. W. Stallard), as chairman of the General Committee, read a report, which stated that upwards of 20,000 visitors had inspected the various exhibits of Worcestershire manufactures; and with the view of securing an interesting permanent record of the exhibition, and of supplementing its educational influences, the sub-committee had arranged for the early publication of reports on their various sections. The actual receipts of the exhibition had been 9,794*l*. 16s. up to the previous night, besides 290*l*. for items not yet quite ascertained. The actual and estimated expenditure was 8,500*l*., so that a balance of over 1,500*l*. was at the disposal of the committee. Earl Beauchamp then addressed the meeting, after which Sir Cunliffe Owen said the exhibition had been distinguished in one respect from all similor exhibitions, in that there had been shown in it processes of manufacture which had not been divulged to the public before. In his twenty-five years' experience he had never known an exhibition of this kind brought to so successful an issue as this had been, and he congratulated all concerned on the result.

Present Condition of Ephesus.—In reply to expressions of disappointment as to the appearance of the remains, Mr. J. T. Wood writes,—"Of great interest are the several courses of beautiful marble masonry of the south and west walls of the cella of an earlier temple, which were made to serve for the foundations of the last temple; also the foundation-piers of the great columns, and the whole of the marble pavement of an earlier temple, which was probably built in the time of Crœsus, who contributed largely to its cost. A portion of this pavement on the south side has been uplifted by an earthquake with a large mass of the mortar, which was in use at the time for building a church or some other large building within the cella of the temple. There is also to be seen on the north side of the site, and at the east end, 100 ft. of the lowest step of the platform upon which the temple was raised. Then there are countless drums of fluted columns, altogether making a most interesting though not an imposing ruin. A good idea of the appearance of the ruins may be obtained by a glance at the lithographs in my book, which were carefully drawn on stone from large photographs."

Announcements.—A new edition, enlarged, of Mr. Lewis D'A. Jackson's "Hydraulic Manual," consisting ef working tables and explanatory text, is announced for early publication by Messrs. Crosby Lockwood & Co., London. The same publishers also promise immediately a new and enlarged edition of Mr. Michael Reynolds's "Stationary Engine Driving," a practical manual for engineers in charge of stationary engines; and the following scientific and technical works in their popular "Weale's Rudimentary Series":—"Land Drainage, its Theory and Practice," by Professor Scott; "The Smithy and Forge," including coach-smithing, farriers' work, &c., by W. J. E. Crane; "Details of Machinery," comprising instructions for the execution of various works in iron, in the fitting-shop, foundry, and boiler-yard, by Francis Campin, C.E.; "Plumbing," a text-book to the practice of the art or craft of the plumber, with chapters on house drainage, embodying the latest improvements, by W. P. Buchan, fourth edition, enlarged; "Quantities and Measurements," with rules for abstracting, hints for preparing a bill of quantities, and prices for all work in the building trade, by Alfred Charles Beaton, sixth edition, with prices revised to the present date.

Competitions: Matlock.—Fourteen designs were submitted in open competition for laying out the grounds of the Matlock Bath Pavilion and Gardens Company (Limited), several of them of considerable merit. The first premium of 25*l*. was awarded to Messrs. Barron & Son, Borrowash, Derby; the second premium of 15*l*. to Messrs. Brockbank, Wilson, & Malliner, Albert-square, Manchester; and a supplementary premium of 5*l*. to Mr. F. S. Smith, 14, St. Anne's-square, Manchester.

Surveyorship.—Mr. Alfred B. Brady, C.E., has been elected surveyor to the Sanitary Authority of the Maldon Union, Essex, at a salary of 200*l*. per annum. There were sixty candidates for the appointment.

The Nurses' Home at the Manchester Infirmary.—The Nurses' Home which has been erected in the grounds of the Royal Infirmary is rapidly hastening to completion, and will be ready for occupation probably in four or five weeks. It stands at the south-east corner of the Infirmary, and in its style of architecture harmonises with the main block of buildings. It is three stories in height, and there are about twenty-eight bed-rooms on each floor, special sitting-rooms for superintendents being provided in addition. Each bed-room is fitted with wardrobe, dressing-table, wash-stand, and fixed mirror. Gas and water-pipes are attached to each room also, and the whole building, with the exception of the sitting-rooms, which have fireplaces of their own, is heated with steam. Each room has its window; but, besides this, there is a swing-glass panel over the entrance-door, and a ventilating grating in the wall. By means of the glass over the doors light is admitted to, or received from, the corridors, as the case may be. Each set of rooms is provided with baths and other conveniences. The architects are Messrs. Pennington & Bridgen, and Messrs. W. Southern & Sons are the contractors.

Association of Municipal and Sanitary Engineers and Surveyors.—The Midland District Meeting is to be held at the Vyrnwy Waterworks (for the supply of Liverpool), near Llanwddyn, Montgomeryshire, on Saturday, the 28th day October. The members will assemble at the Works, about two miles south-east of Llanwddyn, at ten o'clock on the morning of Saturday, and will have an opportunity of inspecting in pregress of of construction one of the most important works of water supply that has ever been attempted. The exceptional interest attaching to these works will be understood when it is stated that the Valley of the Vyrnwy, when closed by the masonry dam about to be constructed across it, will form a lake nearly five miles in length, with an area of 1,100 or 1,200 acres, and between 800 ft. and 900 ft. above the mean sea level. In many respects the magnitude of this work exceeds anything hitherto undertaken. The distance of Llanwddyn from any railway station renders it absolutely necessary that those members who intend to visit the Vyrnwy Valley should arrive on the previous evening, Friday, the 27th.

Canterbury Cathedral.—An addition has been made to the altar of Canterbury Cathedral by the filling in of four open spaces facing the choir with enamel mosaic designs. The subjects are four angels taken from the paintings of Fra Angelico, the originals of which are now treasured at Venice. The background of each is of gold, on which the delicately traced figures present a striking picture when seen in a favourable light. The work has been carried out by the Venice and Murano Glass and Mosaic Company.

Municipal Buildings for Leamington.—Alderman Bright, mayor of Leamington, laid the foundation-stone, on the 17th inst., of the new municipal buildings which are to be erected on a site near the parade, at a cost of 20,000*l*. The architect is Mr. C. Cundell, and the contractor is Mr. John Fell, both local men.

TENDERS

For the erection and completion of a new Wesleyan chapel at Sutton-in-Ashfield, Notts. Mr. Arthur Marshall, architect, Nottingham. Quantities supplied:—

H. Vickers	£1,325	0	0
W. Bailey	1,298	10	0
W. Hodson	1,249	0	0
Bell & Son	1,204	0	0
Dudson & Parish	1,170	0	0
G. Hewitt	1,134	0	0
S. & G. Frisby	1,075	5	0
Goodall & Deniss	1,073	11	6
Boot & Redwood	1,035	15	0
Stainforth Bros.	990	10	0
S. G. Hibbert	928	3	6
Foster & Parkinson	919	0	0
Fisher Bros.	900	0	0
A. Eastwood (accepted)	839	9	0

For new roads at Carlton, near Nottingham. Mr. Frederick Jackson, engineer, Nottingham. Quantities by the engineer:—

George Morris, Carlton	£807	2	6
Thos. Smart, Nottingham	796	10	0
Jas. Knight, Loughborough	714	14	7
Wm. Cordon, Nottingham (accepted)	701	7	0

For alteration to South Hornsey Schools:—

Goodall	£140	0	0
Southcott	127	10	0
Devereux	117	0	0
Mattock Bros.	113	0	0
Kerry & Son	110	0	0
Altworth	106	0	0
J. S. King	103	0	0
Twitchin	102	10	0

For alterations at 59, Bishopsgate-street. Mr. W. Smith, architect, 1, Gresham-buildings:—

	Granite.	Portland.
Stevenson Bros.	£1,020 0 0	£852 0 0
J. Anley	1,016 0 0	890 0 0
Mattock Bros.	977 0 0	819 0 0
Johnson	974 0 0	894 0 0
Woodward	935 0 0	—
Thomerson	850 0 0	700 0 0
Durnford & Langham	815 0 0	670 0 0
J. Harper	809 0 0	698 0 0
Richardson	789 0 0	752 0 0
W. Shurmur	783 0 0	684 0 0
Lark & Son	760 0 0	640 0 0

For alterations and repairs to the Old Chesterfield Arms public-house, May Fair, for the City of London Brewery. Mr. J. Jewhurst, architect:—

Hewlett	£876 0 0
Battley	851 0 0
Taylor	846 0 0
Longmire & Burge	797 0 0
Jackson & Todd	769 0 0
W. Shurmur	745 0 0
Spencer Bros.	725 0 0
Cubitt	725 0 0
Moore	624 0 0

For two houses at Wood Green. Mr. John Hamilton, architect:—

Larter & Son	£1,330 0 0
W. Shurmur	1,182 0 0
J. Harper	1,175 0 0
J. Roome	970 0 0

For alterations at 11, Dowgate-hill, for the Worshipful Company of Dyers. Mr. W. Waymouth, architect:—
W. Shurmur (accepted).

For the erection of new schools, Harrow-road, N.W., for the London School Board. Quantities supplied. Mr. E. R. Robson, architect:—

W. Brass	£12,548 0 0
W. Scrivener	12,340 0 0
Higgs & Hill	12,334 0 0
W. G. Larke	12,253 0 0
E. Lawrence	12,244 0 0
Perry & Co.	12,078 0 0
W. Oldrey	11,793 0 0
C. Wall	11,187 0 0
Stimpson & Co.	11,066 0 0

For proposed new roads and sewers at Harrow, for Mr. D. R. Soames. E. E. Croucher & Co., 76, Chancery-lane, surveyors:—

T. G. Dunmore	£1,198 0 0
G. Rayner	1,100 0 0
McKenzie, Williams, & Co.	1,024 0 0
J. Bell	991 0 0
T. Adams (accepted)	749 0 0

For building boundary-wall and fence at the cemetery, Shooter's Hill, for the Greenwich Burial Board. Mr. T. Dinwiddy, architect:—

F. Birt	£1,112 11 0!
Holloway	973 0 0
M. Redman	887 0 0
Martin & Goddard	699 0 0
Bridd	643 0 0
G. W. Sly	600 0 0
F. C. Smith	595 0 0
Wood	577 0 0
Holding & Son (accepted)	548 0 0
Lonegga	510 0 0!

For repairs at Old Park Farm, Enfield, for Mr. S. Sugden. Mr. Walter Graves, architect:—

Ward & Lamble	£597 0 0
Cooper	480 0 0
Harris (accepted)	358 0 0
Spencer & Co.	335 0 0
G. Thomas	267 0 0
J. Richardson	235 0 0

For sundry alterations, &c., at 52, Highbury New Park, for Mr. Moss Benjamin. Mr. Thomas Millbourn, architect:—

Warren	£240 0 0
Roberts	142 10 0
Fernley	130 0 0
R. Conder	126 0 0

For addition to house at Theydon Bois, for Mr. W. H. Nicholls. Mr. Thomas Millbourn, architect:—

Palmer	£909 18 0
R. Conder	890 0 0
Pamphilon	868 13 10
Salmon	690 0 0

For sundry repairs, &c., at malting premises, &c., Crib-street, Ware, Hertfordshire, for Messrs. B. Young & Co., Brewery, Hertford. Mr. C. A. Legg, architect, Mile End, London:—

F. Hitch, Ware	£298 0 0
T. Hunt, Ware	257 10 0
H. Huggins, Ware (accepted)	247 0 0

For fifty slate fermenting-squares, upon the Yorkshire system, for Mr. John Smith, the Brewery, Tadcaster. Messrs. Scamell & Colyer, engineers, 18, Great George-street, Westminster:—

Contract No. 10.—*Slate Mason.*
1st Section.
Ashton & Green, London (accepted) £2,750 0 0

For new front, &c., 22, Marine-square, Brighton. Mr. Arthur Loader, architect, Brighton:—

J. M. Newnham	£753 0 0
R. & F. Parsons	750 0 0
J. Barnes	726 0 0
W. Hackman	720 0 0
G. R. Lockyer	689 0 0
J. Bruton, Brighton (accepted)	630 0 0

For decoration, repairs, &c., 3, St. Peter's-place, Brighton. Mr. Arthur Loader, surveyor:—
Cheeseman & Co., Brighton (accepted).

For the enlargement of the National Schools, Ashford, Middlesex, by the addition of a new schoolroom, &c. Mr. W. Eversden, Howard-street, Strand, architect:—

	New Room.	Boys' W.C.	New R.W. Tank.
Lodge	£527 0 0	£63 0 0	£16 0 0
Reavell	475 0 0	68 0 0	15 0 0
Richardson	460 0 0	65 0 0	15 0 0

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L. S. (for such service as that named the charge depends on circumstances).—Vicar (Humphreys, Knightsbridge).—J. W. S.—H. H.—W. G.—J. N.—T. M.—A. L.—W. O.—S. & C.—W. R.—H. S. F.—J. B.—A. A.—J. S.—J. W. & Sons.—Capt. C.—N. J.—B. F.—W. S.—E. E. C.—A. B. B.—G. F.—M. & G.—S. & Co.—W. & C.—B. E. N.

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